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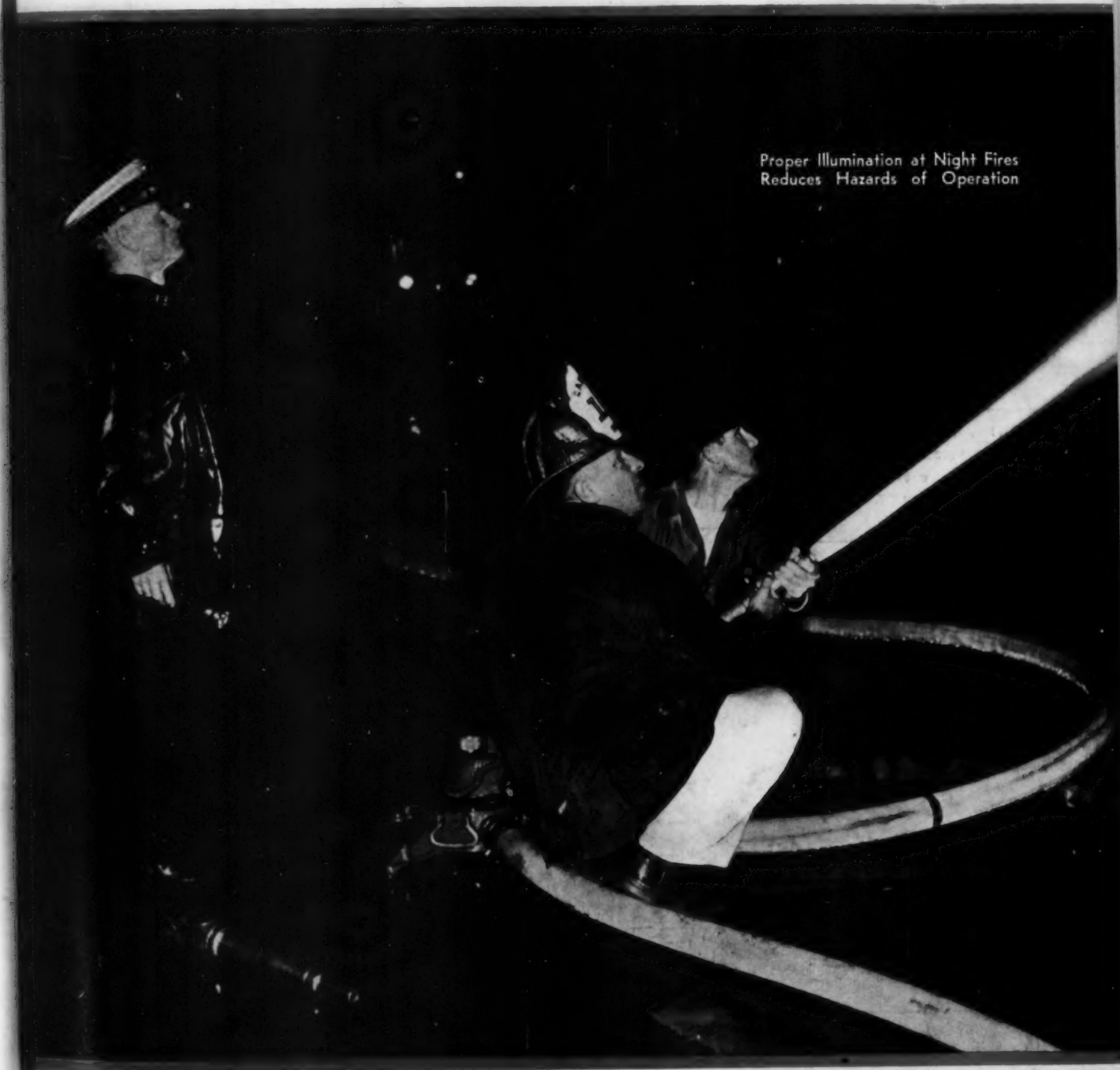
FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

Vol. 90, No. 2 FEBRUARY, 1937 Member A.B.C.—A.B.P.



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Seagrave's Latest 750 Gallon Pumper

SEAGRAVE'S Latest 750 Gallon Pumper equipped with all bronze centrifugal pump of the 2 stage Parallel-Series type, is the last word in modern fire fighting apparatus. Powered with a V-12 Cylinder motor developing 185 brake horsepower you can be assured at all times of adequate power. Modern, streamlined, it is a picture of power and speed.

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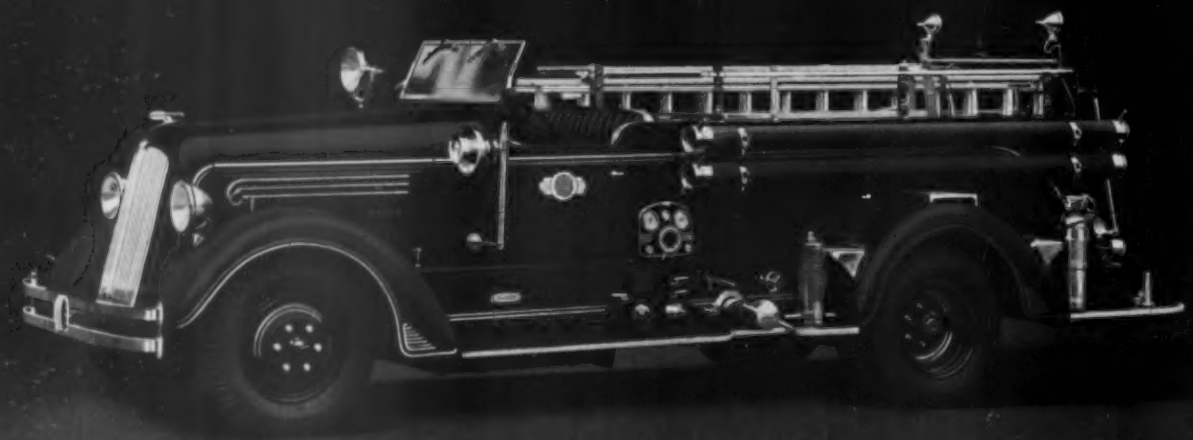
SIGNIFICANT! All of today's records for high speed and stamina are held by V-12 motors—you get a V-12 for your department when you buy SEAGRAVE.



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FEDERAL Smashes

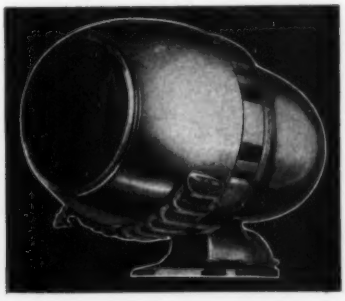
INTO 1937 WITH *New* IMPROVED STREAMLINED SIRENS

Credit Federal with another SIREN SCOOP. Federal opens 1937 with an entirely new type of siren, and new designs on its already established streamline models. The photographs of the models speak for themselves, streamlined beauties all of them. Ruggedly constructed to withstand abuse. But rub your eyes—cock your ears—and meet the brand new member of the famous Federal family! INTRODUCING—

FEDERAL "77" *DOUBLETONE* LONG ROLL SIREN!

Yes, we said *double-toned!* Here is a siren with two distinct tones—a high, piercing tone to penetrate closed cars with a shriek for instant action—and a low, carrying tone that clears traffic for blocks ahead. To add to the carrying power, the frequencies of the two tones cross at regular intervals to produce an extra weighted beat that rolls ahead like the third wave at the seashore. You get two tones and triple power! And combined with this are the features of our famous C-5 Coaster Siren—the brilliant red or green flashing light beam, enabling traffic to both SEE and HEAR your warning—long roll of more than TWO MINUTES after current is shut off—grease sealed ball bearing motor—all-chrome finish.

Again Federal is FIRST with the FINEST!



FEDERAL C-5 COASTER SIREN

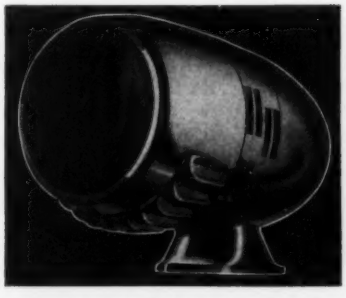
With a flashing beam of light
Instantly recognized by day or night.

FOUR POINT ACTION IN ONE POWERFUL SIREN

1—**Sound**—A new compelling roar.
2—**Light**—Flashing on or off with siren roar.
3—**Coasts**—After current is shut off for **three minutes.** That saves battery.
4—**Electric Brake**—Stops roar instantly by touch of button.

SPECIFICATIONS

Model, C-5; Finish, Chrome; Voltage, 6 or 12; Dimensions, 15¾" long 9" high; Net Weight, 29 lbs.; Bracket, Pedestal.

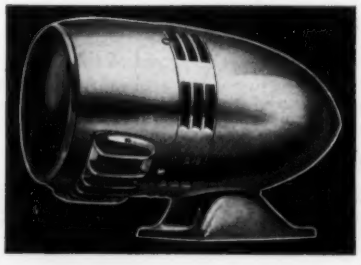


FEDERAL "77" Doubletone Long Roll Siren

Built Chuckful of Action.
1—Newest innovation a two-tone blast.
2—Large Red Flashing Light.
3—Long Rolling action after current is cut off more than two minutes.
4—Electric Brake—Touch of button stops roar instantly.
5—Economy—Streamlined—Precision Built.

SPECIFICATIONS

Model, "77"; Finish, Chrome; Voltage, 6 or 12; Dimensions, 15½" long x 8¼" high; Net Weight, 22¾ lbs.; Bracket, Pedestal.



FEDERAL "66" Junior Long Roll Siren

Users of the lighter emergency vehicles appreciate this Siren for economy—ruggedness and beauty. Made to meet average requirements. Rolls for more than thirty seconds. Every Siren precision built and weather tested.

SPECIFICATIONS

Model, "66"; Finish, Chrome; Voltage, 6 or 12. Dimensions, 14¾" long, 8¼" high; Net Weight, 13¼ lbs.; Brackets, Bar or Pedestal.

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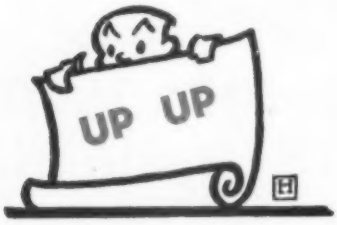
A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

ROBERT H. LOCKWOOD, Associate Editor
FRED SHEPPERD, Editor
N. N. WOLPERT, Assistant Editor



Still going Up!

THE December, 1936, issue of FIRE ENGINEERING reaches a new high! Total Net Paid Circulation of this issue was over fifty-two hundred copies!

● For 24 consecutive months now the circulation of FIRE ENGINEERING has shown a steady increase. For the six months period ending December 31, 1936, total average net paid circulation was 15% greater than for the same period in 1935. And 33% greater than in '34!

● This is a remarkable achievement, and one to which we point with pardonable pride. The figures, incidentally, are from the Audit Bureau of Circulations.

● Why are we so proud of this record? Because it means that more and more chiefs are reading FIRE ENGINEERING—and depending upon it to keep abreast of the newest developments in their work.

● In the fire service FIRE ENGINEERING is "tops." It is read and respected by more chiefs than any other publication. And it always has been. It is their favorite paper.

The Publishers

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Humorous Side of the Fire-Fighting Profession

MEMBER
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Associated Business Papers

Published the tenth of each month by
CASE-SHEPPERD-MANN PUBLISHING CORPORATION
Also publishers of "Water Works Engineering" and "Municipal Sanitation"
General Offices—24 West 40th Street, New York

SUBSCRIPTION PRICE
U. S. and Canada, $2 a year; Foreign, $3; Single Copies, 25c.

KARL M. MANN, President
I. HERBERT CASE, Vice-Pres. and General Manager
JESSE H. NEAL, Vice-President
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CHICAGO: 6 N. Michigan Ave.—W. S. CLEVENGER, L. M. ROCHE; SAN FRANCISCO: 444 Market St.—CHARLES H. WOOLEY

Entered as second class matter April 15, 1929, at the Post Office at New York, N. Y., under the Act of March 3, 1879.
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More Men are Killed in Collisions Than in Fighting Fires!

Style 530

Protect Your Men and Apparatus With the

NEW— AKR-O-LITE

RITE-O-WAY

AN OSCILLATING, FLASHING TRAFFIC WARNING LIGHT

This new Akr-O-Lite Light definitely identifies emergency apparatus at night by its penetrating, oscillating red beam of light in combination with an attention compelling red flashing light.

The oscillator sweeps the pavement 110 times a minute; the flasher "winks" 150 times a minute—the result is an effect that is visible for a MILE ahead. Powerful penetrating rays are thrown fully 600 feet in front of apparatus. No person within a spread of 70 feet wide in front of the apparatus can miss the warning. It COMMANDS instant attention.

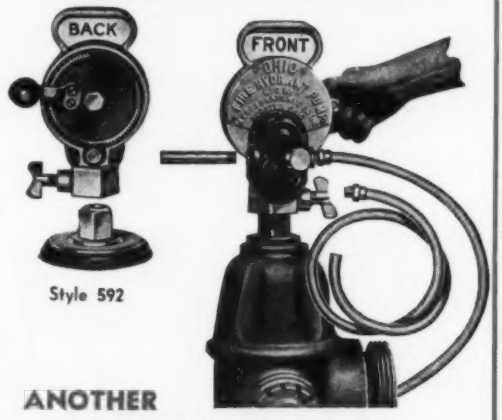
The unit, weighing only 9 lbs., may be rigidly mounted on Bumper, Fender, Hood, over Cab, or in any convenient spot with a clear space ahead. It is furnished complete with bulbs, motor and dash push-pull switch. Motors and bulbs for either 6-volt or 12-volt systems are furnished, so it is necessary that you SPECIFY WHICH VOLTAGE YOU HAVE.

Fog penetrating lens on oscillating feature specially designed so that light rays may be diffused in either horizontal or vertical position. Flasher lens penetrating type. The combination of oscillating and flasher rays when fused set up intermittent FLARES.

This Akr-O-Lite Light is designed for, and sales are RESTRICTED to, use on Emergency Fire Department Apparatus, Chief Cars, Ambulances and Police Emergency Cars. Lamp so designed that it is impossible for water stream even under high pressures to enter or cause light to become inoperative.

Protect your men and apparatus! Order now — Style 530.

Again "Akron" Pioneers
Originators—Not Imitators



Style 592

ANOTHER PRODUCT OF MERIT

A portable ROTARY HYDRANT PUMP. Fits any hydrant; self-priming; simple to operate; needs no care; chromium-plated steel gears won't rust; AKR-O-LITE METAL casing; drains any hydrant thoroughly in less time and with less effort than any other pump on the market.

Hydrants Worthless When Frozen

AKRON BRASS MFG. COMPANY, INC.
WOOSTER, OHIO

FIRE

QUICKLY POSITIVELY *Controlled with* INDIAN FIRE PUMPS

Florida forest rangers using INDIANS to extinguish large grass fire. Note freedom of arms and comfortable manner in which pump is carried on back. No rubbing or chafing.

CARRYING HANDLE

The INDIAN is easily carried by handle. Combination carrying handle and pump holder made of heavy brass and strongly riveted to tank. Fits snugly in hand. Pump quickly snapped in or out of handle.

DETAILS OF THE INDIAN

STRONG in construction, positive in action and neat in appearance, an INDIAN FIRE PUMP is the last word in a portable fire fighting outfit. It always works and never fails in an emergency. Curved tank fits back snugly, while perforated shield prevents cold and dampness of the water tank from touching carrier's back. No propping to fill. Metal tank cannot rot or puncture. Filled tanks stand alone in truck. Heavy solid brass pump has combination nozzle for 50 ft. strong stream or coarse spray. Write for circular.

(At Right)

EASY TO FILL

Large opening permits tank to be quickly filled. Only clear water used. Can be refilled constantly on the fire line. No injurious chemicals. Tanks do not have to be propped up. Stand up alone and are strong and rigid.

CCC boys unloading INDIANS preparatory to fighting large forest fire near camp. Many CCC camps have INDIANS as regular equipment.

AN INDIAN IS 100% PROTECTION AGAINST FIRE

MADE BY D. B. SMITH & CO., UTICA, N. Y.

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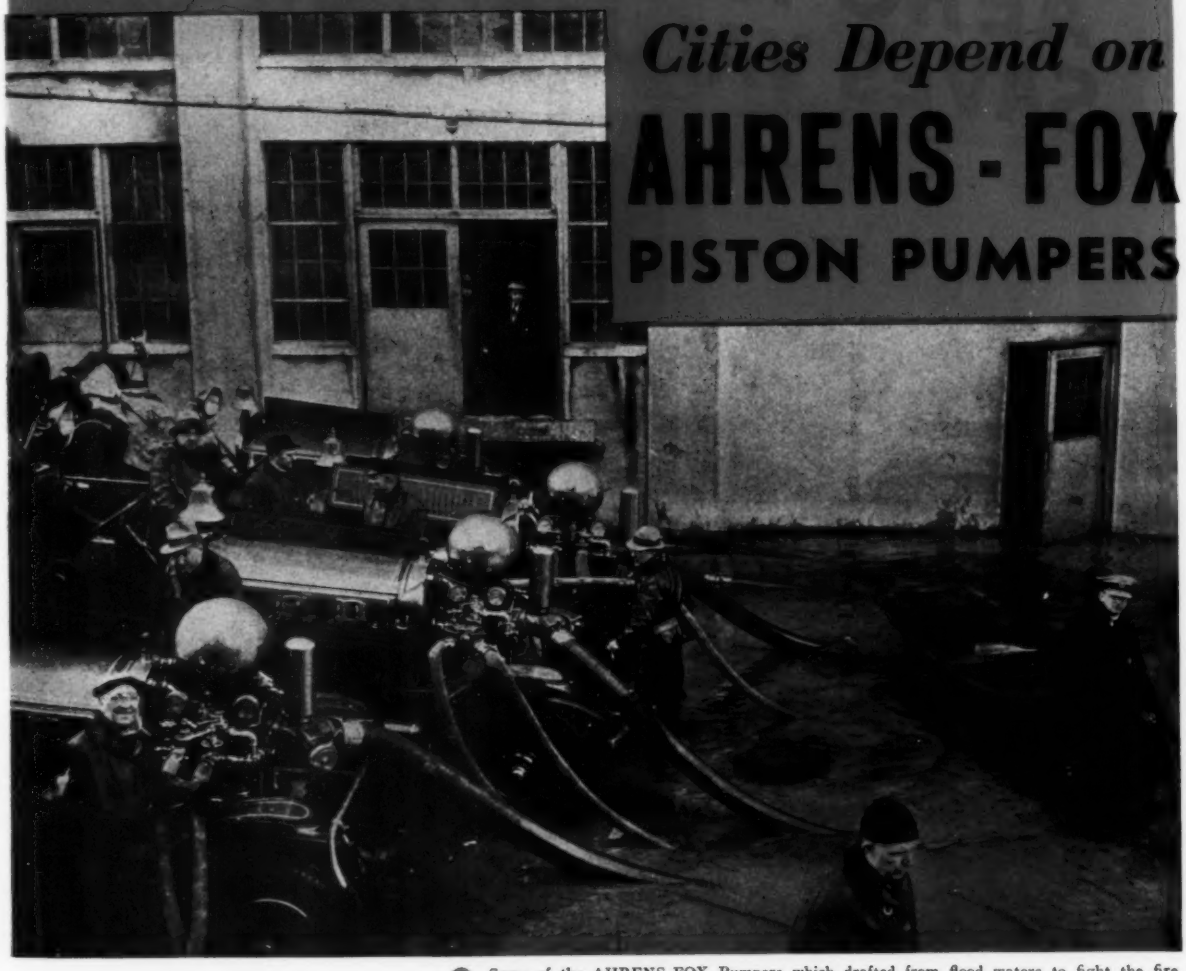
When The Great Emergency Comes

Cities Depend on

AHRENS-FOX PISTON PUMPERS



Some of the AHRENS-FOX Pumpers which drafted from flood waters to fight the fire at the Standard Oil plant during the great flood in Cincinnati—a fire which threatened the entire industrial district.

WATER Works Pumping Stations may be flooded and the mains empty, but if AHRENS-FOX Piston Pumping Engines are available to take suction from any source of water supply the great emergency can be successfully met.

Most Fire Department Pumpers will do a fair job of boosting hydrant pressure, provided there is plenty of water and friction losses and obstacles to be overcome in delivery lines are not too great.

But when a really difficult assignment has to be handled, hundreds of Fire Departments depend on their AHRENS-FOX Piston Pumpers. They never "lay down" on the toughest job.

AHRENS-FOX QUALITY

THE AHRENS-FOX FIRE ENGINE COMPANY

CINCINNATI, OHIO

AHRENS-FOX BUILDS EVERY TYPE OF PUMP FOR EVERY KIND OF SERVICE

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

AERO ALARM SAVES VALUABLE STOCK

MILLWORK
ONLY FIVE FEET FROM BLAZE ESCAPES UNDAMAGED

At 1:50 a. m. on October 21, the A.D.T. Central Station in Buffalo received an alarm from the Aero Automatic Fire Alarm System at a large lumber plant.* The fire department was immediately dispatched, and found the fire in a paint shop on the second floor. So speedy was Aero's action that only a chemical hand extinguisher was needed to extinguish the blaze.

A stock of finished millwork valued at several thousand dollars, stored less than five feet away, would unquestionably have been destroyed had there been as much as a minute's delay in detecting and reporting this blaze. As it was, the millwork was *untouched by the flames,* and total damages were placed at less than thirty-five dollars.

By automatically detecting and reporting fire in its incipiency, the A.D.T. Aero Automatic Fire Alarm System summons the fire department to the scene in time to keep damages to the minimum. The effectiveness of Aero is proved by its performance record—less than three cents loss per hundred dollars of insurable values is the average during the past ten years in Aero protected properties.

**Name and complete details available upon request.*

Controlled Companies of **AMERICAN DISTRICT TELEGRAPH COMPANY** • 155 Sixth Avenue, New York, N. Y.

A.D.T. SYSTEM — A NATION-WIDE PROTECTION SERVICE AGAINST FIRE, BURGLARY AND HOLDUP — A.D.T.

MANHATTAN Fire Hose

International News

Dependable Under Pressure

After careful inspection at each stage of manufacture, every length of Manhattan Fire Hose is subjected to additional, thorough testing *under high pressure* to guard against possible defects. That's why Manhattan Fire Hose has been recognized and used by leading fire departments for forty-four years.

Made in several grades and weights in both single and double jacket types for either light service in small departments or heavy duty in larger cities where fire hose is often subjected to high pressures for long periods and rough treatment.

Manhattan Fire Hose is easy to handle because it's flat folding. Firemen will appreciate this feature as well as its balanced construction which also aids in the speed and ease of handling.

THE MANHATTAN RUBBER MFG. DIVISION
OF RAYBESTOS-MANHATTAN, INC.
Sole Manufacturers of Radio-Active Treated Mildew-Proof Fire Hose
EXECUTIVE OFFICES and FACTORIES, 52 TOWNSEND ST., PASSAIC, N. J.

Birmingham Chicago Cleveland New Orleans New York Boston
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What Price Delayed Alarms ?

The Threefold Fire Alarm Box

"A Box a Block" in congested high value districts; not more than 500 feet to the nearest box in closely built residential districts; convenient to every group of buildings, manufacturing establishments, and institutions in sparsely built districts is generally a safe rule to follow.

DEATH by fire is a frequent occurrence, yet most people prefer to believe it cannot come to them, their near relatives, or friends, but is reserved for others. It is preventable and should be unheard of in public institutions. Yet—officials and taxpayers continue to ignore the responsibility which is legally and morally theirs.

Quick response of firemen and apparatus is vital in Life Hazards. Seconds are important when fire is beyond control. The first five minutes are decisive. In nine cases out of ten, the fire can be stopped and life loss avoided within this time. And the property loss will be insignificant.

Panic is a factor to be recognized. Children trying to escape fire in schools, adults in theatres, hotels, and other scenes of grim tragedies have clogged stairways and exits, and have been trampled, suffocated, and burned to death.

No other body of men can so effectively check panic and inspire confidence as the trained municipal fire fighters. A prompt alarm enables them to function. *Delayed alarms are the greatest contributing factor to the fire loss.*

A fire alarm system, constantly and automatically supervised, which transmits the alarm instantly and directly to the fire department and at the same time provides for the orderly evacuation of the building is essential to protection of life and property.

THE GAMEWELL COMPANY

NEWTON UPPER FALLS **MASSACHUSETTS**

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FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 90 FEBRUARY, 1937 No 2

With the Editor

Apparatus Prices Headed Upward

Roger W. Babson, the statistician, has been singularly successful in forecasting business trends. In fact, his statistical service to the investment field has exerted a profound influence upon investment activities. His prediction of the stock market crash and of national recovery were typical of his ability to foresee trends.

His comments in an article elsewhere in this issue on increasing costs of fire apparatus are therefore highly significant. Inflation is already with us, and it can mean but one thing: Increased prices for everything made in this country.

That Mr. Babson's prediction is accurate is borne out by reports from two of the prominent builders of fire apparatus who state that higher prices are inevitable. Increased costs of raw and fabricated materials and higher wages which are already being felt must be passed on to the consumer.

City administrations cannot afford to ignore this trend. If fire apparatus is needed, it should be bought at once. To delay means higher prices, both from the increased cost of manufacture of the apparatus and the stiffening of the bond market. Money can be secured today at a low interest rate; the same may not hold next month.

The savings in initial costs and in financing of the purchase, which are possible if action is taken today, are sufficient justification for buying right now any new apparatus which may be needed during the year.

We're headed for higher prices! They cannot be avoided!

Take Mr. Babson's word for it that "the sooner Fire Departments purchase new equipment and extend their fire alarm systems the better off cities will be," and make your plans for buying new apparatus and equipment NOW!

Fred Sheppard

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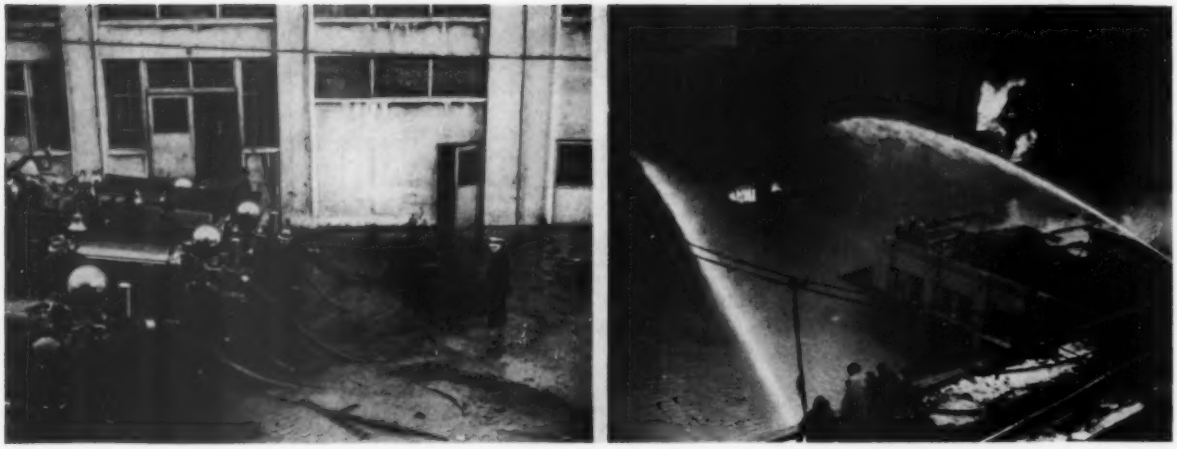


Fighting the Fire That Broke Out in the Plant of the Crosley Radio Corporation, Cincinnati

Left, firemen pumping water from the flooded Mill Creek to fight fire at the Crosley plant. Right, fighting the fire from another vantage point. For a time this fire threatened to wipe out the city's industrial section.

Flood Tests Fire Service

Even Though Fire Departments Were Forced to Work Under Unprecedented Conditions, Serious Conflagrations Were Averted, and Firemen Rescued Many Flood Victims

FIGHTING against hazards and obstacles such as have never faced any other Fire Department, Chief Barney Houston and the Cincinnati, Ohio, department controlled a fire which extended along a three-mile front and which, for a time, was believed to be the beginning of a city-wide conflagration.

There was no shortage of water. There was too much of it. The mad, swirling torrents which filled the streets and partially submerged the industrial buildings and homes, prevented the department from gaining quick access to the burning area. In addition, there was the serious danger of the quick-moving waters carrying with it the gasoline which poured out of a 250,000-gallon oil tank that had upset when flood waters floated the tank off its foundation.

Trolley Wire Starts Fire

Fire, it is believed, was started on January 25 by a trolley wire which fell in gasoline floating on flood waters. Explosions and the moving waters carried the flames over a wide front and soon thirty-two buildings had become involved. During the height of the fire, the pumping station had shut down as a means of conserving the meagre supply of water available for domestic use.

The fire was north of the Cincinnati Union Stockyards and 2.5 miles from the confluence of Mill Creek with the Ohio River. It was away from the down town area, the city's business district.

The first sign of trouble was a flash that sent flames over the eight-story Crosley Building. Explosion followed explosion, as bursting barrels of oil fed the flames. Chief Houston concentrated his forces on the paint and varnish warehouse, and for a time it was feared that an 85-foot smokestack would topple.

Standard Oil Plant Razed

In addition to the Crosley property, the fire claimed all the buildings of the main plant of the Standard Oil Company. Eighteen firemen were overcome and Assistant Chief Sherwood collapsed at the fire scene.

Chief Houston ordered all those living along the Ohio River to put out their fires, because of the floating oil hazard, and the fumes that hung over the area.

Louisville, another of the important cities inundated, ordered every cigarette on the street extinguished. Smoking or lighting a match was forbidden, because of the oil which floated on the waters from submerged fuel tanks, and the back waters of the sewers. A deep pool of oil at one time floated around the city hall.

Everywhere that the flood waters reached, there were the same dangers and hazards. Flooded streets made quick response impossible, and where the waters were very deep, the only means of approach was by some form of float or boat.

Huge Force Exerted on Tanks

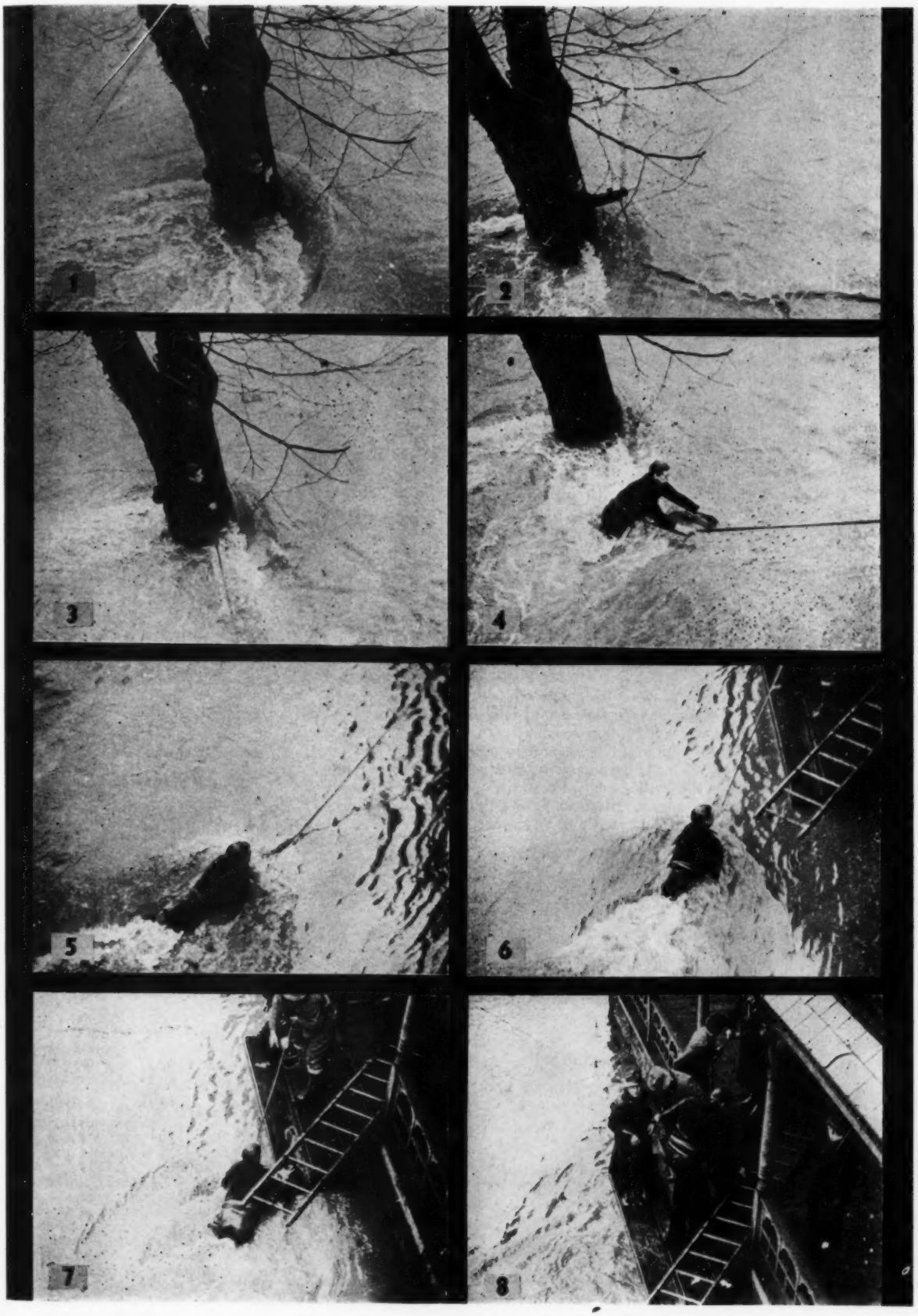
Those who are familiar with the fundamental law of physics, "that a body is buoyed up by a force equal to the amount of water that the body displaces," will readily appreciate the immense force that worked to free oil tanks from the foundations. The tanks, even though they may not have floated very far, tipped completely or partially over, and discharged the large stores of oil over an immense surface of water.

Steps in a Rescue

Here, as shown by photographs on the opposite page, is one of the many rescues made by members of the Portsmouth Fire Department.

1. Firemen discover a man holding to a tree, as the flood waters rush by. 2. They throw a life line to him. 3. He makes this line secure around his waist. 4. Rescuers start to haul him to safety. 5. The man is pulled through the rapidly moving waters. 6. As he nears the fireman, a ladder is pushed out to him. 7. At last, the man is within reach of the firemen. 8. He walks up the steps into a house and safety.

Wide World Photos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Additional Views of the Fire That Broke Out in the Industrial Section of Cincinnati

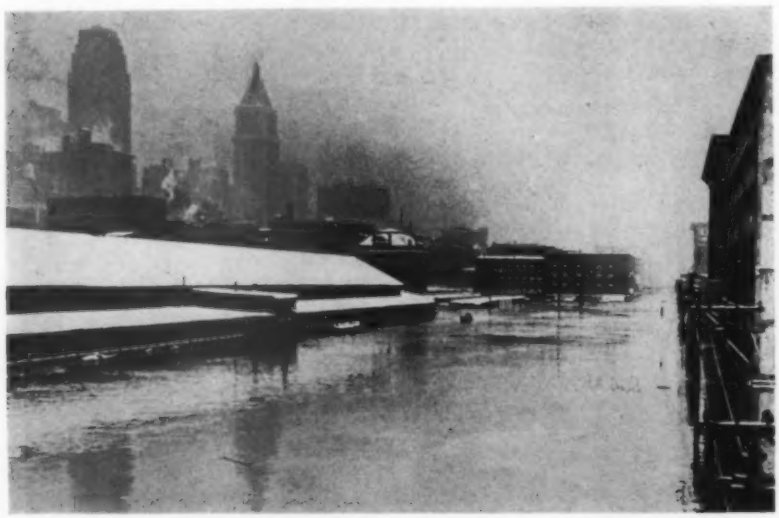
Left, an aerial view of the fire that broke out in the Crosley plant district. The plant is behind the column of smoke in the center of the photograph. Right, a picture of how the fire started. At the left are the tanks of the Standard Oil Company. Many tanks toppled over and the escaping oil started a fire near the Baltimore and Ohio Railroad Warehouse, which quickly spread to other properties, as the result of flaming oil on the waters.

Faced by these new conditions, departments everywhere in the flood-stricken districts had to carry on and exert the greatest of effort to prevent conflagrations which, had they developed, would have brought misery and added sufferings to thousands of persons, who by that time had been deprived of the usual modes of living—heat, light, shelter, and even safe water.

As is always the case during catastrophes, the Fire Department and its personnel does not wait for fire calls before going into action. Just how many were rescued as the direct result of firemen's work will never be known. They were among the first to start rescue work, first working with hip boots in the rapidly rising water, and later from boats of all descriptions. The firemen rushed to whatever points the radio operators reported there was trouble. They were on the job constantly.

Louisville sent in a call for the National Guard to relieve its firemen who worked constantly, and with little opportunity to rest.

That fires did not spread to wipe out entire cities, was due to the well trained and educated department officers, who were quick to sense a hazard and to meet it before serious damage resulted, and to the personnel who carried out the department traditions of saving life and property without any favoritism.



Down Town Cincinnati

Snow above and rivers below—a true picture of the business area of Cincinnati, with the towering skyscrapers in the background. Water in the streets was from fifteen to twenty feet deep.

Ever Drive Nail Through Glass?

It is now possible to drive a nail through glass, or even saw the glass as though it were a board.

Of course, no suggestion is made that a nail be driven through the ordinary type of window glass, but it may be done with a new type of bubble glass described at a meeting in London, England. The material is a multicellar glass, consisting of tiny bubbles, very close together and so arranged that there is a thin layer of glass between the bubbles.

It is said that this new glass, in the form of bricks, is suitable for insulating partitions inside buildings, or it may be used as heat insulating linings. The acoustical insulation of 2½-inch walls made of this material, it is said has the same value as a wall of ordinary brick, eleven inches thick.

Fire Prevention Group Meets in Somerville

The January meeting of the Massachusetts Fire Prevention Association was held in fire headquarters in Somerville, with Percy Bugbee, Assistant Managing Director of the National Fire Protection Association, as the scheduled speaker of the day.

Harold S. Walker, of the Associated Factory Mutual Fire Insurance Companies, was the principal speaker at the December meeting of the association, which was held in the Cambridge fire headquarters.

Captain Charles F. Bell, of Brockton, presided, assisted by Secretary Albert C. Maxwell, of Reading. Among the subjects discussed were fires caused by sparks from acetylene welding, corroded automatic sprinklers, high piling of goods which obstructs windows and prevents effective operation of streams, electrical defects, and hazards of butane.

Storage of X-Ray films, shingle roof ordinances, study of fire causes, and inspection reports were other topics taken up. Mr. Walker was elected an honorary member of the association.

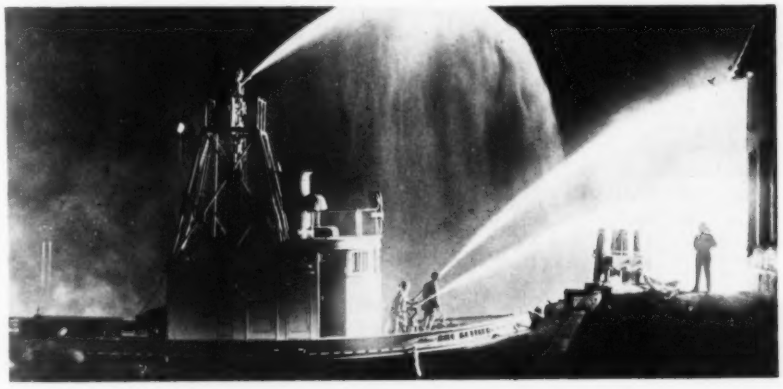
HARRY BELKNAP.

Steam Power Has Been Replaced by Internal Combustion Engines in the

Design of Fire Boats

By CHARLES W. GEIGER

ON the Pacific Coast men who speak with knowledge based on fire-fighting experience hold that the gasoline fire-boat is vastly superior to the craft it has displaced; that it shows a great gain in economy and efficiency over its predecessor, the steam-operated fire boat. The gasoline fire-boat is operated with a smaller crew, and, of course, consumes no fuel when not in action.



Fire Boat "Bill Kettner," San Diego in Action at a Night Fire

Looking backward there is the gasoline driven "Bill Kettner," constructed in 1918 entirely by members of the San Diego Fire Department who also built the pumps. She is sixty-five feet long, eighteen feet beam, and is driven by a single screw. Her equipment consists of three 220-horsepower engines, she has an At-last-Imperial engine for propulsion and two Seagraves to operate the pumps, which also can be operated by the propulsion engine. The three centrifugal two-stage pumps can throw a maximum of thirteen streams simultaneously. Their capacity is 4,500 gallons per minute. The craft has a speed of ten knots per hour.

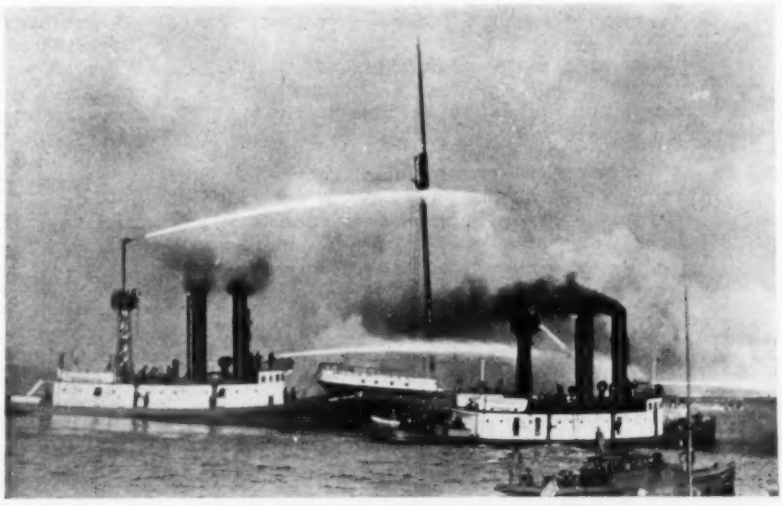
Without forgetting the pioneer, the little "Bill Kettner," which continues to demonstrate the efficiency of motor fire boats in San Diego harbor, now consider the "City of Los Angeles No. 2," which has a total water delivery of 12,000 gallons per minute.

When necessary this craft can remove the vessel sideways away from a burning dock or vessel.

This vessel measures 99 feet lengthwise and has a beam of twenty feet. She is powered with seven Winton gasoline engines, each of 300 horsepower and two Winton engines of 25 horsepower. One of the 300 horsepower engines is located on the center line aft and drives the center propeller. Two of the 300 h.p. engines are located aft and drive the wing propellers and after firepumps. Cut-out couplings are provided so that these engines can be used for driving the propellers when proceeding to or from a fire, and for driving the after pumps at the scene of a fire. Four of the 300-h.p. engines are direct connected to the forward pumps.

This arrangement provides a total of 900 horsepower for propulsion when proceeding to or from a fire, giving the vessel a speed of seventeen miles per hour, and the center engine of 300 horsepower is available for maneuvering at the fire when the remaining engines are doing pumping service. Two 25 h.p. engines are direct connected to two fifteen-kw. generators, one of which provides all the electric power required for the steering gear and other auxiliary equipment, the other being in reserve.

(*Continued on page 72*)



An Example of the Steam Powered Fire Boat

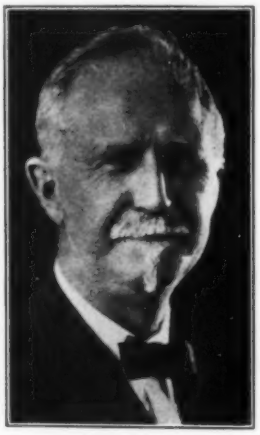
Here is the "David Scannell" with its sister ship, "Dennis T. Sullivan," in service in San Francisco. They are of steel construction. The boats measure 120 feet long, 26 feet beam, draft 11 feet, and the speed is 11 knots. Steam turbine driven pumps deliver 10,000 gallons per minute. The two boats are shown during a demonstration.

INFLATION AND FIRE CHIEFS

ROGER W. BABSON

Recent years have brought out no more outstanding a figure in finance and economics than Roger W. Babson. While he is probably best known to the public as the man who predicted the stock market crash, which occurred in 1929, in the field of finance he is recognized as a man of remarkable vision, a highly capable analyst of business condition and trends, and probably the foremost authority in this country today on political economy.

In this article, which was prepared specially for FIRE ENGINEERING, *he sets forth a most convincing argument for immediate purchase of needed fire apparatus and equipment and indicates the necessity for raises in fire department salaries.*
EDITOR.



Roger W. Babson

FIRST, let me give a definition of inflation: Inflation is the result of increasing the *currency* of the country more rapidly than the *assets* of the country. This is a very uninteresting subject, but it is tremendously important. Therefore, please try to be patient with me.

How Inflation Occurs

Inflation is a form of disease which starts from many different sources. The five most simple forms of inflation develop in the following ways:

(1) The rudest form of inflation comes from "clipping coins." This means making them smaller in diameter or thinner. It is the form that is used in certain countries, and at times has been resorted to in the United States.

(2) In the case of paper money, the same result is obtained by printing additional paper money without increasing the gold reserve, or else by reducing the gold reserve back of the amount that is already outstanding. This is the method which is now being used in the United States.

(3) A similar result can be obtained by issuing an excess of Government bonds, which are really a form of currency and which tend to debase the currency already issued. The only difference between a thousand dollar bill and a thousand dollar bond is that the bill is printed with green ink on a small piece of paper, while the bond is printed with yellow ink on a big piece of paper—the latter bearing a low rate of interest.

(4) Inflation also comes about through the increased use of checks, notes, and other forms of municipal, corporation, and personal indebtedness. So long as another man will accept your handwritten note for $10, it has the same effect toward bringing on inflation as if the Government should print an unsecured ten dollar greenback.

(5) Finally, a great increase in the circulation of money brings about inflation. When money changes hands three times as fast in a week, it has the same effect as increasing the amount of currency outstanding by threefold.

Why Inflation is Dangerous

Let us refer again to our definition. So long as there is an increase in the country's food, clothing and shelter equal to the increase in the circulating money, there is nothing to fear; but in practice this is not now the situation. Our outstanding currency is becoming inflated more rapidly than is our increase in food, clothing and shelter. In fact, while increasing the currency, we have been burning corn, plowing up cotton, and killing livestock!

How does inflation work, you ask? Why, it has the same effect on prices as changing the

size of a bushel would affect the price of wheat, or changing the length of a yardstick would affect the price of cotton cloth, or changing the gallon measure would affect the price of gasoline. In other words, the price of any of these products could easily be increased by changing the size of the measure irrespective of demand or supply. This is a very important fact for Fire Chiefs to keep in mind especially when the nation is facing a period of greater demand and general prosperity.

Not a Matter of Politics

This, moreover, is not a matter of politics. Inflation in some form always follows a severe business depression. We would be facing inflation today, whether a Republican or Democratic President had been elected last November. For five years we have had *deflation*, with declining wages and material costs. Now we are headed for *inflation*, with increasing wages and material costs. The basic Law of Action and Reaction applies to prices the same as it applies to the swinging of the pendulum on Grandfather's clock.

I might go further and say that inflation is already with us. Prices of many raw materials have doubled during the past year and a half. Wages are still lagging, which is the basic cause of the numerous strikes of today. The next step will be for inflation to show itself in increased prices of finished products such as fire trucks, fire hose, and fire alarm equipment. Furthermore these increases—caused by inflation—will be added to the natural increases due to greater demand and general prosperity.

Reasons For Expecting More Inflation

In case some one argues with you that further inflation is not inevitable, give them the following three reasons:

(1) Government expenses are still greatly in excess of Government receipts. In order for the Government to pay its bills, it must either print bonds or print currency. As explained above, this makes little difference. Either results in inflation and increased prices.

(2) Debtors will continue to howl for more inflation until they themselves begin to feel the evil effects thereof. This applies to farmers with mortgages, real estate promoters, and some merchants who owe money. They know that as prices of the land, houses, and goods which they own go up in price, it will be easier for them to sell out and get out of debt.

(3) Those engaged in foreign trade are usually anxious to have the United States further devaluate its dollar. When other countries devaluate, the country which does not, loses trade. For instance, if English pounds or French francs can be secured more easily than American dollars, then the English and the French will get the business. Under such conditions, American exporters want our country to devaluate further so as to cheapen our dollars. This cheapening of our dollars, however, although helping the foreigner, temporarily, ultimately results in higher prices. It is simply a means of "beating the devil around the bush."

Inflation is a temporary stimulant to business; but, like whiskey or any other stimulant, its effects last for only a short time. Sooner or later increased prices offset all advantages temporarily secured by a "cheap dollar."

What This Means to Fire Chiefs

Inflation is bound to have two distinct effects on the fire departments of our cities. These are as follows:

(A) There will be a general rise in the prices of all materials which fire departments purchase. This means that the sooner fire departments purchase new equipment and extend their fire alarm systems the better off the cities will be. The same principle applies to fire protection in general—such as the installation of sprinkler systems, electrical fire detectors and other protective apparatus. Fire chiefs should expect to increase the wages of their crews. Today the salaries of Fire Chiefs, Assistant Chiefs, Deputy Chiefs, Battalion Chiefs, Captains and Privates are abnormally low. The cost of living has already commenced to advance and is bound to go higher. Therefore, only common justice demands a readjustment of wages.

(B) As the effects of inflation become generally recognized, there should be a demand on the part of real estate owners, merchants and others, for greater fire protection. As it costs more to replace property, the owners of buildings and merchandise are more fearful of fires and more anxious for greater protection. Therefore, Fire Chiefs who properly present the subject of inflation to their city governments, should have the support of all property owners in the city for increased appropriations. As this is the only "good news" which I have been able to include in this uninteresting article, perhaps this is a good place to quit!

When are Fire Streams on Live Wires Dangerous?

Experiments Conducted by Purdue University and Reported in Bulletin No. 53 Show Safe Stream and Voltage Limitations

THE use of electricity for power and light is bringing an increasing number of high voltage lines into every village, town, and city. Firemen engaged in fighting fires are daily being brought into the vicinity of power lines of varying voltages. The phase or line to line voltages encountered in the average city vary from 110 to 2,200 volts, but in a few cities may be considerably higher.

The fireman of today has learned to respect the electric power lines and usually keeps his fire streams clear from this hazard. In some cases, however, it is impossible to keep the fire streams from coming in contact with power lines.

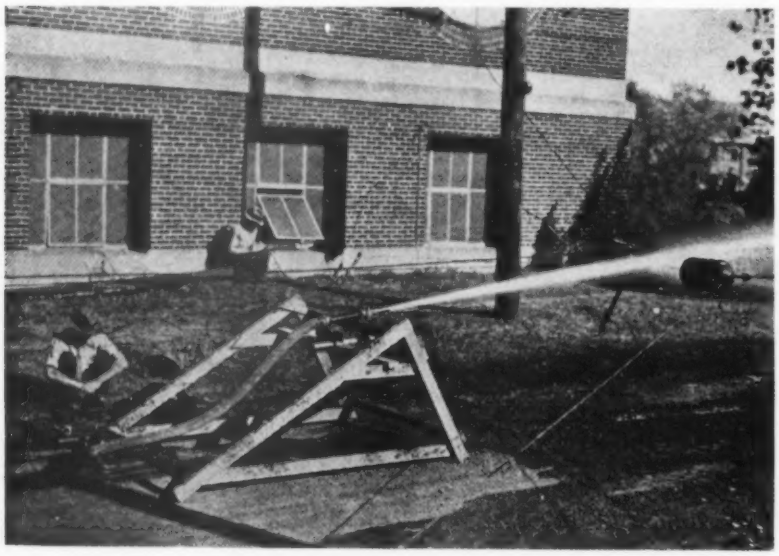


Fig. 1. Photograph of Outdoor Set-up

At the 1934 Indiana Fire School a demonstration showing the safe distances at which a fireman might direct a hose stream on high voltage lines was conducted by the Purdue School of Electrical Engineering. As a result of this demonstration Purdue University was asked to make a study of the electrical conductivity of fire streams. The Electrical Engineering Division, of the Purdue Engineering Experiment Station, undertook the study of conductivity of fire streams as a research project and submitted its findings in a bulletin from which this article represents excerpts.

The studies included the following investigations:

(a) Measurement of the amount of electricity carried down a fire stream from a high-voltage line, bearing voltages varying from 440 volts to 100,000 volts, to nozzles of standard sizes (1-inch, 1⅛-inch, 1¼-inch) under varying pressures and distances.

(b) Studies to determine the variation of the conductivity of water samples used by Fire Departments of different Indiana cities.

(c) Determination of a recommended safe distance at which a fireman can safely hold a nozzle directing water on a line energized at a known voltage.

Measurement of Conductivity of Fire Streams

The tests were conducted upon the campus of Purdue University, in the rear of the Electrical Engineering Building, at which point the desired line voltage could readily be secured from the High-Voltage Laboratory. Water for the tests was obtained from a fire plug connection to the University water mains. A pumper owned by the West Lafayette Fire Department, equipped with a rotary pump, was located at the hydrant, with 250 feet of 2½-inch hose between the pumper and the nozzle. The nozzle used had tips of 1-inch, 1⅛-inch and 1¼-inch diameter. The nozzle was fastened to an adjustable, insulating, wooden support. The line conductor consisted of a No. 4 bare copper wire, stretched tightly about four feet above the ground and at right angles to the fire stream. The conductor was insulated for the maximum of 100,000 volts used in the tests. The distance from the nozzle to the conductor was varied by moving the nozzle support. Fig. 1 shows a photograph of the equipment in operation.

The tests covered a range of line voltages of from 440 volts to 100,000 volts and distances from nozzle to conductor of from 1 foot to 36 feet. The major portion of the tests were made using a 1⅛-inch nozzle and a nozzle pressure of 50 pounds per square inch, although some data are presented for 1-inch and 1¼-inch nozzles and pressures of 30 and 70 pounds per square inch.

The current which flowed down the fire stream was measured by an ammeter, connected between the nozzle and the grounded side of the circuit supplying the high voltage to the line. Thus the circuit did not include the resistance of any earth connections, and the current thus measured would be the maximum which would be encountered under the conditions of the test. Fig. 2 gives a diagram of the circuit as used in this work.

Procedure

The method of obtaining the readings was as follows: With the conductor de-energized, the nozzle support was moved to provide the desired distance from the nozzle to conductor. The fire stream was then turned on and the nozzle pressure was determined by means of a Pitot gauge. The desired nozzle pressure was obtained by adjusting the pressure at the pumper, until the Pitot gauge at the nozzle gave the proper reading. The nozzle pressure was

then maintained at this value by keeping the pumper pressure constant, as determined by the instruments on the pumper. With the fire stream adjusted for the desired pressure and distance to the conductor, the angle of elevation of the nozzle was then adjusted so that the conductor was in the middle of the fire stream.

The conductor was then energized; the voltage on the conductor was gradually raised to the desired value; and the current reading was obtained and recorded. The voltage was then raised to the next value, another current reading obtained, and so on.

For short distances from conductor to nozzle, the current readings were quite steady; but as the distance was increased the ammeter would fluctuate more and more until, at the greatest distance of about 36 feet, the meter pointer would read zero the greater portion of the time, with only an occasional indication of current flow. These fluctuations were, of course, due to the changes in the continuity of the stream, when it began to break up at some distance from the nozzle. In all cases where fluctuation was observed the meters were watched for a considerable length of time and the maximum observed indication was taken as the current reading.

Results of Tests

The summary data obtained in the tests are presented herewith mainly in curve form. Some general data pertaining to all the tests are presented in table form.

General Data

Water Supply — Purdue University water mains.

Water Resistivity—1,900 ohms. per cu. cm. at 63° F.

Pumper—South Bend equipped with rotary pump.

Nozzle—Colt (1-inch, 1⅛-inch, 1¼-inch diameters).

Line Conductor—No. 4 bare copper wire.

Length of Hose, Pumper to Nozzle—250 ft.

Diameter of Hose, Pumper to Nozzle—2½-inch.

In practically all of the tests the measurements were made first with no resistance and then with 5,000 ohms between nozzle and ground. The value of 5,000 ohms represents about the upper limit of body resistance. With hands and feet wet, the body resistance would be considerably less than this figure. The tests were made in this manner to determine if body resistance was an appreciable factor. The insertion of 5,000 ohms in the circuit between the nozzle and ground caused a negligible change in the current. The effect of body resistance was therefore assumed to be negligible, as far as these tests are concerned.

Figs. 3 and 4 present groups of curves showing the effect of changing the nozzle size. All of the curves of Figs. 3 and 4 represent current values obtained with no added resistance between nozzle and ground. As would be expected, the current is greater for the larger nozzle. The general trend of curves, especially at the smaller distances, is such as to show that the current tends to vary inversely as the distance. At the greater distances such an assumption must obviously be in error, because of the divergence and the breaking up of the stream at some distance from the nozzle. The effect of the latter becomes quite obvious at distances from the nozzle greater than about 15 feet, being evidenced by the discontinuous current flow as indicated by the ammeter.

A few tests were made in which the nozzle pressure was the only variable. Table 1 represents the results of these tests, showing the change, or rather the lack of change, in the current to ground as the pressure was varied from 30 to 70-pounds per square inch.

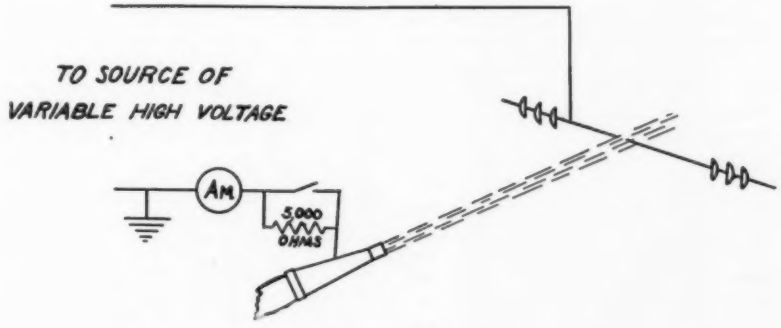


Fig. 2. Circuit Diagram

Table 1.—Effect of Nozzle Pressure. Nozzle size, 1⅛-inch. Distance, nozzle to line, 8 feet. Line voltage, 6,600 volts

Pressure lbs./in.²	Current to Ground Milliamperes
30	25.5
50	25.0
70	25.0

The data of Table 1 indicate a negligible change in the current for the practical range of pressures. This result might have been anticipated, inasmuch as the conductivity of the stream is a function of the pressure only to the extent that the pressure determines the velocity, which in turn affects the breaking up of the stream at some distance from the nozzle. Thus, the effect of nozzle pressure would presumably be most apparent at considerable distances from the nozzle.

Physiological Effect of Electric Current

The tests and results which have been described have had to do with the comparatively definite problem of determining the magnitude of the current which may flow to ground via the fire stream, under various conditions of voltage, length of stream, etc. To formulate, from the results of these tests, arbitrary rules for specifications for safe distances from lines of given voltage is a problem not nearly so definite. One may, of course, assume a certain value of current as the safe maximum value. From this assumption, if the conductivity of the water and the voltage of the line are known, one may determine from the preceding curves the minimum safe distance from the nozzle to the line conductor. Such a procedure is relatively simple, but the results depend entirely upon the value of current chosen as the safe maximum value.

It has been estimated that a frequency of 60 cycles per second, which is usually supplied by electric light and power companies, a current of 1 milliampere will just be felt; currents of 4 to 10 milliamperes, depending upon the individual, will cause a sense of pain; a current of 30 milliamperes may cause unconsciousness; and a current of 100 milliamperes is dangerous and may be fatal. The statements involving currents up to 30 milliamperes are based upon tests using human subjects, with the duration of the current at least sufficiently long for the subject to analyze and register the sensation.

While naturally no tests have been made upon human beings at the higher currents, the analysis of cases of accidental shock and the results of tests upon animals have led to the

rather general agreement that, at the higher currents, the duration of current flow is perhaps the most important factor in determining the extent of the injury.

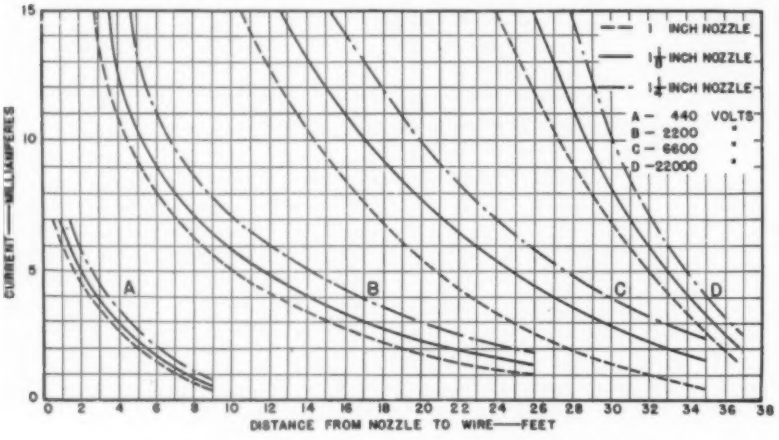


Fig. 3. Current vs. Distance at Different Line to Line Voltages

In case of a fireman grasping a hose nozzle, the maximum safe current is limited, not by consideration of personal injury as a result of the current flow itself, but rather by the condition that the fireman must not lose control of the nozzle, which, if released, would become a source of extreme danger.

From the preceding data it would seem safe to establish an upper limit of 3 milliamperes for the current which may flow down the fire stream. This current flowing through the body of one person would admittedly produce a slight feeling usually described as a tingling sensation, but would not cause severe discomfort or distress. Actually, the selection of this value of current is still further on the safe side for the reasons: first, that usually at least two firemen are detailed to handle the nozzle, so that the current would divide between the two; and second, that the curves of Figs. 3 and 4 are for the maximum values of current which could be obtained with a direct metallic return to the grounded side of the high-voltage supply circuit.

It is well known that the nervous reaction of different individuals to small currents varies very widely. Some persons appear to be hypersensitive, so that the faintest tingle, or possibly even the knowledge that an electric current is passing through their bodies, causes them to become panic stricken. While it is quite possible that in a few cases the physiological makeup of a person may be such as to cause strong reactions to very small currents, it would, in a large number of cases, seem probable that the reaction is largely of a mental nature, being induced by fear of a mysterious unknown, and therefore terrifying experience. Whatever the reasons, it would unnecessarily hamper the operations of the firemen to prescribe clearances and distances, based upon the reaction of hypersensitive persons, especially when it seems quite possible that such persons could be assigned to duty at points not involving the hazard of electric shock.

Assuming, then, that the large majority of persons can stand at least 3 milliamperes without severe discomfort and without excessive physical reaction, one may readily determine the safe distances from lines of various potentials by reference to the curves of Figs. 3 and 4. In Table 2 such distances are presented for lines of various voltages and for water of various degrees of conductivity. The application of these may, of course, involve some modification as indicated by the particular conditions.

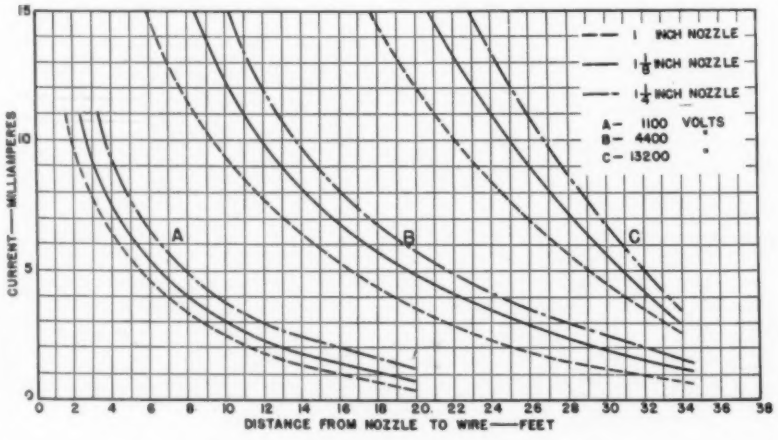


Fig. 4. Current vs. Distance at Different Line to Line Voltages

Table 2.—Safe Distances From High Potential Lines. Nozzle Pressure, 50 pounds per sq. in. Nozzle size, 1¼ inches

	Minimum Safe Distances for Given Resistivity in Feet							
	Restivities							
Volts	500	1000	1500	2000	3000	4000	5000	6000
440	11	7	5.5	4.5	3	3	3	3
1,100	30	18	14	12	8.5	6.5	5.5	5
2,200	*	30	23	20	15	12	9	8
4,400	*	35	31	28	23	19	16	15
6,600	*	*	34	33	30	26	23	22
13,200	*	*	*	*	33	31	29	28
22,000	*	*	*	*	*	*	*	*

*At these resistivities, for the respective voltages, and for all voltages above 13,200 volts, the fire stream should not be allowed to strike the line.

Determination of Minimum Safe Distances From Nozzle to Line Wire

Data incorporated herein show the manner in which the current flowing down the fire stream varies with distance of the nozzle from the line wire, with size of nozzle, and with nozzle pressure, for water of a certain known resistivity.

From this data it is possible to determine the minimum safe distances for lines of different voltages. This

has been done for a range of water resistivities from 500 ohms per cubic centimeter to 6,000 ohms per cubic centimeter and for phase voltages up to 100,000 volts. Table 2 presents these data in a form that provides ready interpolation of voltages and resistivities not given in the table.

The safe distance values as given in Table 2 have included a generous factor of safety for the following reasons:

1. In the experimental work the currents measured were the maximum possible currents.
2. A current of 3 milliamperes should not injure any normal person.
3. With the nozzle handled by two men, the probability is that the current will divide between the two men.
4. The minimum safe distances of Table 2 were obtained from Figs. 3 and 4 using the curves of the 1¼-inch nozzle whereas a 1⅛-inch nozzle having slightly less carrying capacity is generally used.

It will be seen that, in the choice of minimum safe distances, the worst possible conditions were taken. Hence it is felt that the results may be considered as amply safe for all conditions.

REMOVAL OF BUILDINGS WHICH CONSTITUTE A FIRE HAZARD

How Chicago Handled a Problem Which is Apt to Vex the Chief of the Fire Department of Any City in Which Old Buildings Predominate

By Michael J. Corrigan
Chief Fire Marshal, Fire Department, Chicago, Ill.

Chief Michael J. Corrigan

THE city of Chicago, during the past two years, has had considerable experience in the field of removing dilapidated buildings. Under ordinary conditions, regulation, supervision and physical aspects of this work are handled by the Public Works, Police, Buildings, Health and Fire Departments, with the co-ordinating features of the various departments' functions defined by state law and city ordinances.

Plan for Demolition of Unfit Buildings

Some two years ago, however, the Federal government, in its work relief program, made an appropriation for the removal of sub-standard, unsafe, dilapidated and socially unfit buildings, tenements, etc., and since that time, approximately 700 structures have been demolished, under the supervision of the Fire Department, working in conjunction with a local committee and Federal officials. An area of about 100 acres has been cleared. In addition to Fire Department activities, other local agencies and city departments have removed approximately 3,000 more sub-standard buildings.

To expedite our portion of this work, to conform with the primary purpose of the Federal grant, we adopted, and successfully carried out a program of procedure known as the "owner's consent plan," that is, the owner legally assigns all salvage and materials from the building to a bonded and licensed wrecking contractor, to cover the expense of supervision, use of tools and equipment, cost of various kinds of insurance and other incidental expenses, plus their profit.

Advantages in Removal of Such Structures

In many instances, these clearances have afforded areas which have been converted into community athletic fields, and playgrounds and have served to reduce accidents to children who heretofore had to play in the streets; it has also co-operated with the "off the street" cultural centers. Naturally the removal of such structures has materially reduced the alarms of fires as we all know these buildings are always a potential fire hazard and a menace to life and adjoining properties.

Suggests Laws to Regulate Removal

No doubt these appropriations will exhaust themselves. The future holds a problem worthy of much consideration on this general subject and communities which have failed to avail themselves of government funds for demolition projects should apply immediately, and if unsuccessful, I would suggest co-operation with State Fire Marshals and local legal staffs, emphasizing the necessity for the enactment of laws to regulate the removal or rehabilitation of such structures.

The efforts set forth to accomplish this will result in an achievement which will more than compensate the Fire Department, the community which the Fire Department serves, and other agencies interested in a well regulated city or town.

Even though it does not appear to be a Fire Department problem, it is one that requires whole-hearted support and co-operation essential to maintain a progressive and safe community.

The benefits, either direct or indirect, gained by a Fire Department are many; —it is a step in the right direction, but be sure that legal procedure is followed, so that you, or the local government you represent, do not become entangled in law suits caused by illegally removing or destroying other person's property.

(From a paper read before the annual conference of the International Association of Fire Chiefs.)

Moran Chief of Johnstown, Pa.

John Moran, Assistant Chief of Johnstown, Pa., was appointed head of the department on January 1.

When the present fire system was organized, he was made Captain and he held that post until 1924, when he was promoted to Assistant Chief.

Chief John Moran

Capt. Walter Kephart has been appointed Assistant Chief.

C. Bishop, Chief of Onset, Mass.

Deputy Chief Clyde Bishop, of the Fire Department in Onset, Mass., has been appointed Chief, to succeed the late Chief Frank R. F. Harrison, who died last August, at the age of eighty-two years, after a long illness.

Chief Bishop is a young and energetic official, who has made a name for himself outside of Fire Department activities, in the field of motor boat racing. He is a skilled driver of outboard powered boats and last spring won the outboard motor boat marathon race from Albany to New York City on the Hudson River, finishing first in a large list of competitors. HARRY BELKNAP.

Fire Apparatus Today in Europe

Review of Conditions in European Countries Pertaining to the Fighting of Fire and the Practices in Connection with the Type, Arrangement and Placing of Apparatus

By BORIS LAIMING

SINCE changing conditions in American cities have created a demand for new designs of fire apparatus, it is interesting to note how some of the leading European nations are solving their fire apparatus problems.

Before anything is said of the details of European fire apparatus, it seems proper to outline briefly the prevailing physical conditions in European cities which have influenced the development of the fire apparatus described.

Structural conditions in Europe are substantially different from those existing in America. European cities, generally, cover a much smaller area than American cities of comparable population, and present a more uniform picture of construction and occupancy within the built up portions of the city limits. There are no sharply defined congested value districts, as in American cities, nor any extensive residential areas of frame construction, with wooden shingle roofs. Two to seven story masonry buildings prevail in European cities, and fire walls, masonry partition walls, building heights seldom exceeding 100 feet, tile or metal roofs, heavy floor beams, and a relatively small amount of unplastered woodwork are charactertistic of European construction. Potential fire areas are limited in this manner, and the conflagration hazard of European cities is comparatively small.

It is always interesting to know how the other fellow does his work and what equipment he uses. In this article the author outlines European practices and apparatus in a very instructive manner.

When comparing European and American fire services it should be remembered that conditions aboard differ widely from those in this country, and apparatus suitable there may be entirely unsatisfactory for service in this country. As in this country, apparatus abroad is designed to handle situations brought about by local conditions. —EDITOR.

In spite of greater congestion of population living in multi-story residential houses, the number of fires in European cities is very small. There is an average of one fire per year to every 1,000 population, as against an average of about seven fires in American cities, according to Underwriters' statistics.

Fewer Stations, Men and Apparatus

The effect of the foregoing conditions upon the fire service is that safety may be realized in Europe with fewer fire stations, men and apparatus, than in America. Relatively slow burning construction permits a wider spacing of fire stations in European cities, and fewer simultaneous fires allow for smaller Fire Departments than in American cities of comparable population. For the same reason, European Fire Departments run weaker first alarm assignments, except to specially hazardous individual properties, than American cities can afford to run, and follow a different plan of distribution of fire apparatus over the city than the American company organization provides for.

A common practice in Europe is to house all of the first alarm apparatus in one station, under orders of a "station officer". Each station houses at least two or three pieces of apparatus, and some may contain as many as 6 to 10 pieces where special equipment (rescue cars, boat tenders, searchlights, wrecking trucks, etc.) is located. This plan is modified in some cities where concentrations of high values necessitate response of two or three fire stations on the first alarm, as for example in London and Vienna.

New Types of Apparatus Developed

The type of Fire Department organization just described has influenced the construction of European fire apparatus in a manner illustrated by the descriptions and pictures to follow. The principal European nations, as for example, England, France, Germany, and Italy, are building their own fire apparatus. Other countries, for the most part, are supplied from the principal makers. The necessity of renovating obsolete fire apparatus has been keenly felt in most European cities after the depression, and much research has been done by Fire Departments and fire apparatus manufacturers in developing new types of apparatus. Their principal efforts have been directed toward standardization of apparatus, increase of its carrying and pumping capacities, greater efficiency and reliability of operation, economy in maintenance, and adequate protection for the personnel by the construction of closed bodies.

Complete Renovation in Some Cities

Complete renovation of the entire Fire Department apparatus has been

Fig. 1.—Left—Eighteen Pieces of Motor Apparatus Purchased on Single Order by the City of Dresden, Germany, to Replace Its Entire Equipment in Service. Fig. 3.—Right—German Pumper of 525 Gals. Capacity at 115 Lbs. Pump Pressure, With 95 H.P. Diesel Motor, Built for the City of Nuremberg.

All apparatus shown in Fig. 1 have 150 h.p. motors and include nine pumpers, six aerials with pumps and three combination hose wagons.

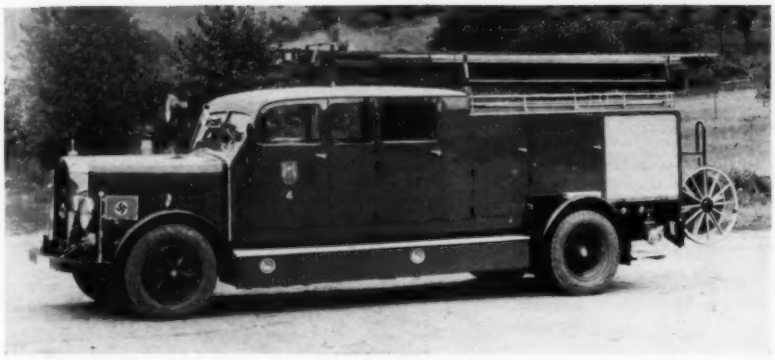


Fig. 2.—Typical German Diesel Powered Pumping Engine of 400 Gallon Capacity with Closed Body

Apparatus seats 11 men, has closed compartments for equipment, hose reel, ladder rack, and pumping unit in the rear, built by Mercedes-Benz-Metz.

accomplished in several cities, as, for example, in Dresden and Nuremberg, Germany, and systematic purchases of new apparatus have been made in other European cities. Those improvements were made possible either by the use of several successive annual appropriations set aside for the purpose, or with the aid of convenient loans from government or insurance institutions. Fig. 1 shows the line-up of 18 pieces of apparatus purchased by the city of Dresden, Germany, in a single order, which provided new equipment for all the stations in the city. The apparatus shown include nine pumpers of 600 gallons capacity, six steel 100 foot automatic aerials with pumps, and three combination hose wagons, all equipped with 150 h.p., 12-cylinder, Maybach motors, and delivered by Daimler-Benz-Metz, Gaggenau in Baden, Germany.

European Pumpers Have Smaller Capacity Than American

European cities, as a rule, use pumpers of smaller rated capacities than most American cities do. According to the specifications of the German National Bureau of Fire Standards, pumpers are built in that country for capacities of 1,500 to 2,500 liters per minute at a pressure equal to 80 meters of water column, which, translated into American practice, means approximately 400 to 660 gallons capacity at 115 lbs. pump pressure respectively. Those pumpers deliver 60 per cent of their rated capacity at a pressure of about 173 lbs. The practice in Germany is to standardize on Diesel motors, whereas in other European countries gasoline motors, with ratings up to 120 h.p., have so far been used. A typical German Diesel powered pumping engine of 400 gallons capacity is shown in Fig. 2. It has a squad body seating 11 men, with closed compartments for equipment, pump placed at the rear end of the apparatus, and hose reel attached. Another pumper equipped with a 95 h.p. Diesel motor and pump mounted forward is shown in Fig. 3. An idea of the interior arrangement of the equipment is gained from Figs. 4 and 5, showing German built pumping engines.

Equipment of German Pumpers

Equipment carried on pumping engines in Germany generally consists

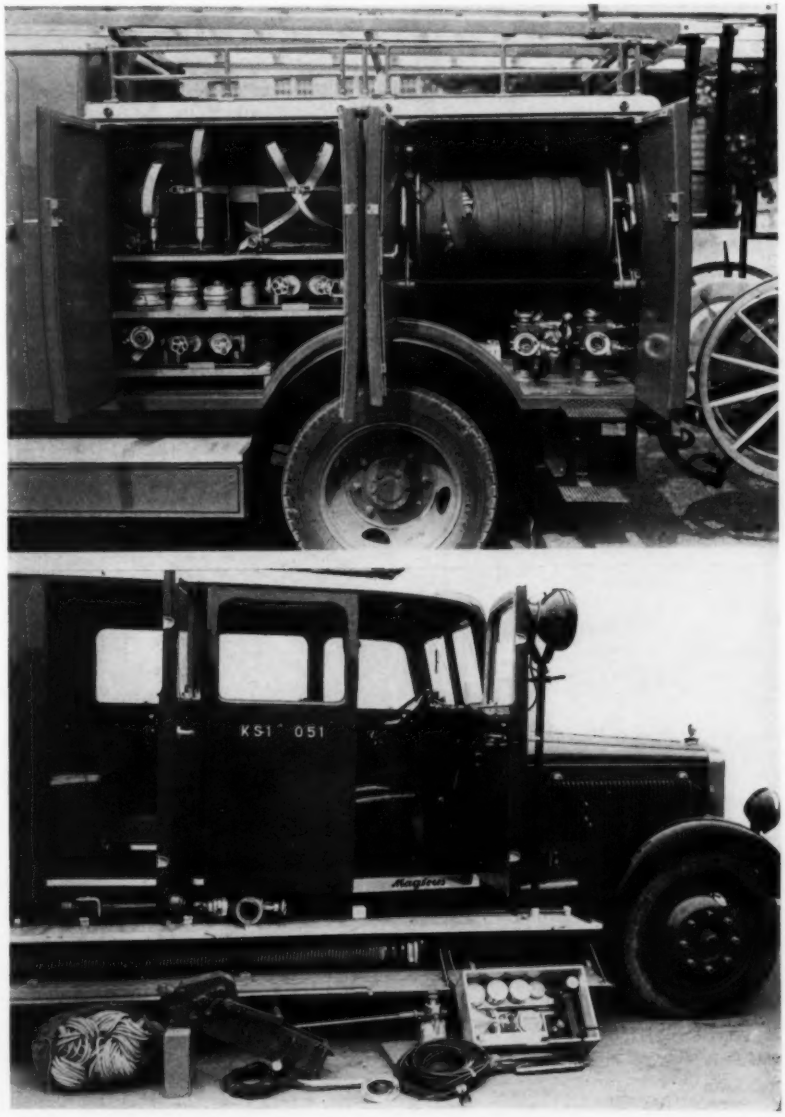


Fig. 4.—Upper—Interior Arrangement of Equipment on German Fire Apparatus, Showing Hose Reels, Siamese Gated Connections, etc. Fig. 5.—Lower—Interior Arrangement of Squad Body on German Fire Apparatus.

of the following: 1,600 to 2,000 feet of 2 and 3-inch light weight rubber lined hose, with snap couplings, placed on one or two detachable reels on wheels, and on portable side reels (Fig. 4), or coiled; a set of nozzles ⅜ to 1¼-inch size; 3 and 4-way gated Siamese connections; pump can and other portable extinguishers; 100 gals. water tank; foam-air solution for use with standard pump; complete set of tools for overhauling and forcible entry; two pieces of self-contained oxygen breathing apparatus; filter masks for entire crew; inhalator with appertenances, first aid kit and stretcher; four pompier ladders; four six to ten foot straight ladder sections, which can be made up into 16-20 or 20-30 foot ladders, or step-ladders; one three sectional extension ladder; lighting equipment, including searchlight and cable; ropes; jacks; salvage equipment; hydrant standee for old type hydrants.

Operation at Fires

The conventional method of operation of such units at fires consists in placing them near the fire, in order to have easy access to the equipment carried on them. The pumps are supplied through leads of 3-inch hose from hydrants. Depending on the number of streams and sizes of nozzles used, 2-inch or 3-inch hose is laid from the pump to the fire. Three-inch lines, with ⅞-inch or larger tips are seldom used, and most fires are fought with ½-inch streams on 2-inch lines.

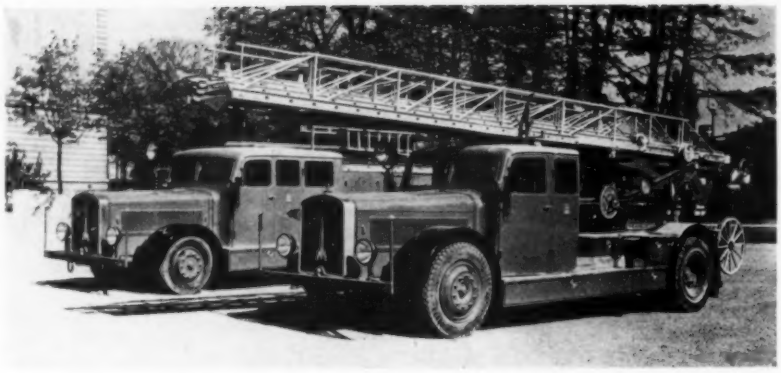
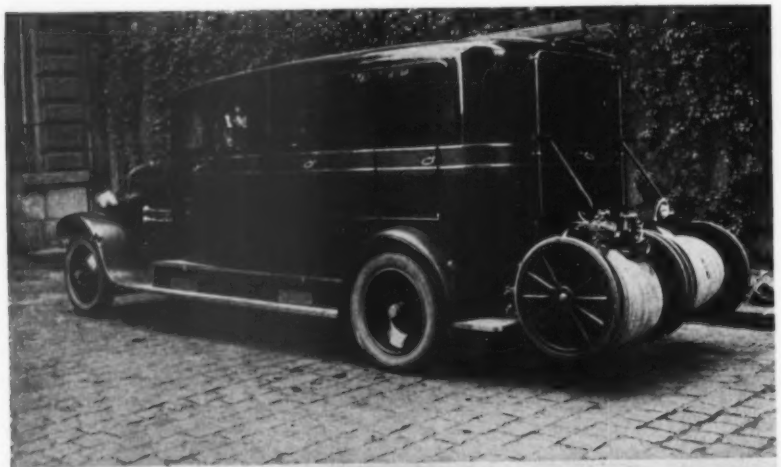


Fig. 8.—Standard Equipment of German Fire-Station
Includes combination pumper squad and hose wagon, and 100 foot steel aerial, both Diesel driven, built by Magirus Werke, Germany.

French Pumper with Rear Pump

In other countries, as in France for example, pumps are placed at hydrants, and reels are used to lay hose to the fire. Fig. 6 shows a typical 525 gal. pumper in Paris, with pump mounted in the rear, with hose reels attached, and 11 men seated inside. Those units carry a similar array of equipment as German pumpers do, except the booster tank which is mounted on a light piece of apparatus, as shown in Fig. 7, housed in each station, and responding to first alarms along with a pumper and an aerial, with a total crew of 20 men.

The standard equipment of a fire station in Germany, as well as in a number of other countries in continental Europe, consists of a pumper and an aerial truck, as shown in Fig. 8, manned by a personnel of 12 to 17 men.



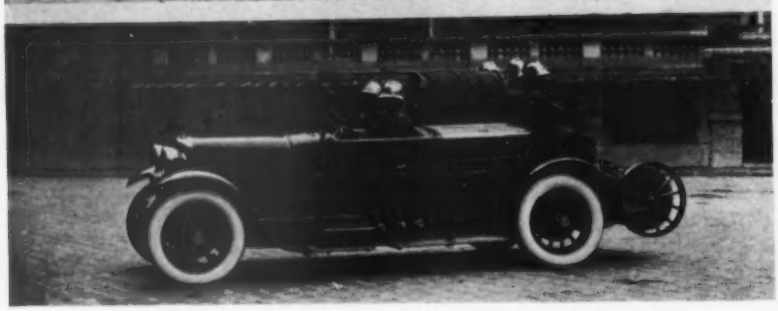


Fig. 6.—Upper—Typical Pumper of the Paris Fire Brigade Rated at 525 Gals. at 85 Lbs. Pressure, With Squad Body for 11 Men and Hose Reels Carrying 2¾-Inch Hose. Fig. 7.—Lower—Typical "Emergency Tender" of the Paris Fire Brigade with Booster Tank and Pump.

European Aerials Different from American Type

European aerial trucks differ considerably from the conventional American types, as seen from the accompanying illustrations. They generally carry hose on one or two reels, and other equipment permitting independent operation at a fire, but only one or two ladders in addition to the aerial. Some of the European aerials are provided with a pump mounted in front of the motor.

Typical German Aerial

Fig. 9 shows a German aerial of latest design, the details of which are seen in Fig. 10. It is built of steel in four sections, with fully automatic one man control of all motions performed by means of a multiple clutch system, powered from the driving motor. Those aerials are built to sizes of approximately 85, 100, 125 and 150 feet, in four, five or six telescoping sections. Jacks mounted on the frame

are used to take the load off the wheels when the aerial is placed in operation. Angle and load indicators, and compensators for side tilting, placed at the controls, provide safety of operation. The motions of raising, turning and extending of the ladder may be performed successively or simultaneously. The time required for raising European aerials varies with apparatus of different size and type between approximately 15 and 35 seconds.

European aerials are manufactured by only a few fire apparatus makers and supplied to Fire Departments throughout the world. While details of construction vary with different makes, several important features are common to all, notably, their limited overall length ranging from 28 to 35 feet, moderate weight of entire apparatus between 18,000 and 24,000 lbs., and rigid construction permitting effective use both for life saving and as a water tower. Some cities, like London for example, have nozzle and platform for operator mounted on their aerials, and perform the evolution of extending the ladder with a man stationed on the platform of the upper fly ladder, and a hose line connected to the tower nozzle for immediate operation after the ladder is extended. An aerial in four sections of English manufacture is shown in Fig. 13; it is built by Merryweather & Sons.

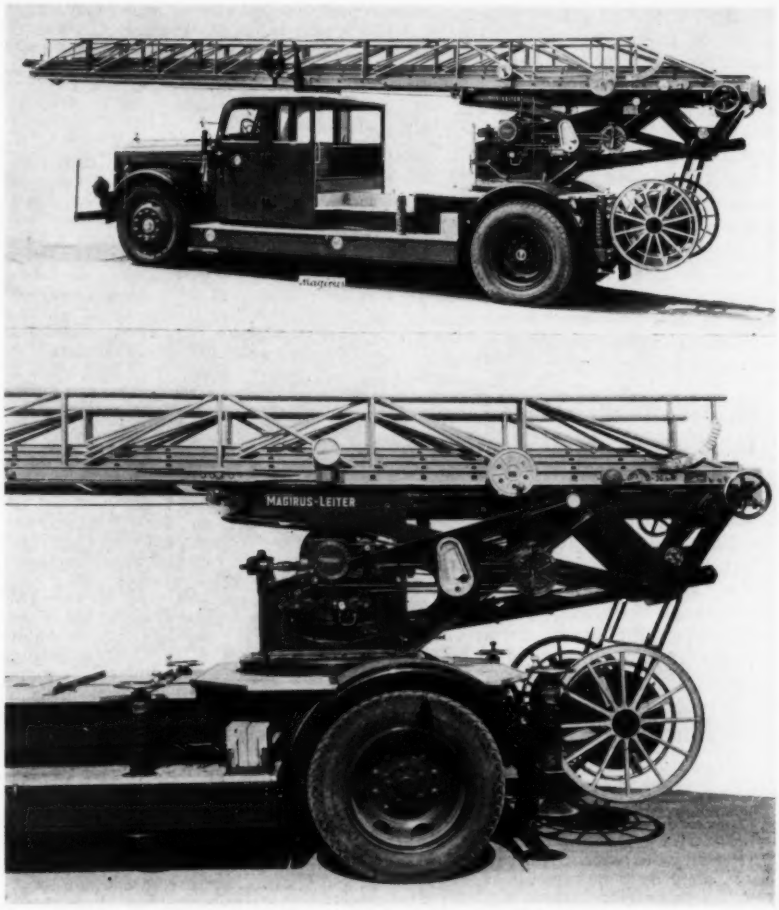


Fig. 9.—Upper—Typical Diesel Driven Automatic 100-Foot Steel Aerial. Fig. 10.—Lower—Detailed Arrangement of Mechanism of the 100-Foot Steel Aerial, Showing the Controls.

Much Rescue Work Performed

Fire Departments in continental Europe perform, as a rule, a large amount of rescue work, comprising not only resuscitation but also a diversity of accident cases. They are equipped for that purpose with squad wagons which carry rescue and wrecking equipment, jacks, winches, searchlights, smoke ventilators and other equipments. A rescue wagon of the Berlin Fire Department is shown in Fig. 11, and a combination squad wagon with detachable aerial placed in service by the city of Nuremberg appears in Fig. 12.

Local conditions have necessarily influenced the types of fire apparatus used in foreign cities. Narrow streets, and large area blocks have, no doubt, demanded the use of apparatus with short wheel base and reels for laying

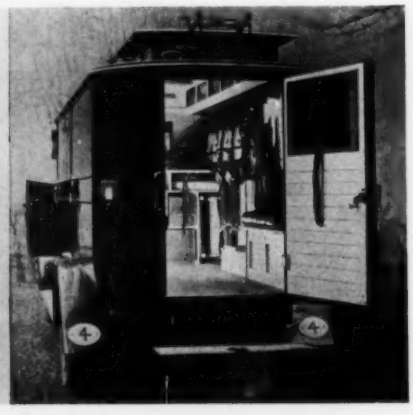


Fig. 11.—Left—Interior View of a Rescue Wagon of the Berlin Fire Department, Germany. Fig. 12.—Right—Combination Squad Wagon with Detachable Aerial Ladder, Nuremberg Fire Department, Germany.

hose, whereas the rather general absence of fire escapes on European buildings of more than two stories in height necessitated placing aerial ladders in the majority of the fire stations. In a similar manner, the high cost of gasoline in some countries has influenced the development of Diesel powered fire apparatus, and the absence of standpipes in the greater proportion of European buildings required the use of lighter type hose with snap couplings, and the employment of relatively small nozzle tips in relation to hose diameters to avoid excessive friction loss.

Apparatus Development in Europe

In spite of the peculiarities of the foreign fire service, it is interesting to note, in conclusion, that European cities have gone a long way in recent years in the development of new types of fire apparatus and the replacement of their obsolete equipment. In consequence of changed physical conditions and traffic in American cities, the experience of foreign cities in renovating their fire apparatus should be of considerable interest to this country.

Haverstraw Has Floodlighting and Rescue Car

After an exhaustive investigation as to its department requirements, the Fire Department at Haverstraw, N. Y., purchased and put into service a new rescue and floodlighting truck.

This unit was obtained from the Seagrave Corporation, Columbus, Ohio. The chassis, which has a wheel base of 169 inches is equipped with an engine having a capacity of 150 horsepower. The large steel body is equipped with compartments designed to hold the very elaborate rescue equipment, which is included as a part of the installation. This is all placed so that it may be made instantly available during any public emergency.

The lighting installation was supplied to the Seagrave Corporation by John C. Clendenin, New York City. The generator, which has 2,000 watts output, is suspended in the chassis and driven directly from a power takeoff attached to the transmission by a propeller shaft, with universal joints. The power from this generator is passed through a voltage regulator, which maintains voltage irrespective of engine speeds or loads. With this device it is unnecessary to keep an attendant constantly at the car to check voltage regulation, when the lamps are connected or disconnected.

The power from the generator is passed through a circuit breaker type of switch panel to watertight outlets, from which it can be communicated to the lamps.

Five floodlights are included, three of 500-watt capacity, and two of 250-watt. These are mounted on stands at the front of the car, with tubular support and are so arranged that they may be lifted off the car and these tubes inserted into portable stands.

Cabal reels are provided, so that the lamps may be operated apart from the car. There is one live circuit cable reel with 300 feet of No. 10, 2 conductor, Tellurium jacket cable which is permanently located at the rear end of the car under the floor. There are also four small reels containing 100 feet of the same size cable, which enable a wide distribution of the lamps at some distance from the truck. All connectors at the ends of the cable and on the lamps are of the watertight type.

This truck is being operated by the General Warren Fire Company, of which Thomas Schuler is Captain. The Chief of the Department at Haverstraw is Harry Joachim and the Deputy Chief Joseph Auges.

Since this car was put into service, there have been a number of important calls requiring the use of the lights and the rescue equipment. This indicates the great utility and public service which a car of this type can render, in conserving life and property.

Floodlighting and Rescue Car in Service at Haverstraw, N. Y.

Connecticut Firemen Can Use FC Auto Plates

Volunteer and paid firemen in Connecticut have the opportunity of getting FC automobile license plates for their cars this year. The Fairfield County Fire Chiefs' Emergency Plan obtained permission from State Motor Vehicle Commissioner Michael A. Connor and applications are being received by John Moehring, of Toms Road, Stamford, Conn., for these plates. Up to this writing over 500 had taken advantage of this opportunity and there are still a few available to firemen who desire them.

Firemen are asked to sign their 1937 renewal and send it with a check or money order made out to the Commissioner of Motor Vehicles to John Moehring—and not to Hartford or any of the branch offices, as a membership card or letter from the Chief or Secretary must accompany it. In most cases, the Chief or Secretary has sent in six or seven from one town, at once eliminating unnecessary labor.

The idea, suggested by Captain Osborne, of Danbury, was to provide firemen either answering a volunteer siren or whistle, or a paid fireman answering an off-duty second or third alarm, an identification on his car to traffic policemen or fire patrolmen in the vicinity of the fire, giving him a better break in getting as close to the fire as possible, increasing the efficiency in his department. In the outlying districts it also allows the volunteer firemen a shade over the speed limit in answering calls.

An attempt was made to obtain the FD series, but all D series and combinations of it are reserved for garage men, automobile dealers, etc., and the Motor Vehicle Department did not care to make the situation confusing to policemen.

Cavanaugh, Chief of Waterbury

Deputy Chief Thomas F. Cavanaugh, Waterbury, Conn., was promoted to head of the department, to fill the vacancy caused by the retirement of Chief Thomas J. Lynch.

Chief Cavanaugh started as a volunteer firemen. He became a permanent fireman on May 8, 1905; Captain on August 28, 1908, and two years ago he became Deputy Chief at the time that Chief Lynch was appointed head. Ill health has kept Chief Lynch from taking an active part in directing the department.

Chief Neary, Natick, Dead

Chief John H. Neary, Natick, Mass., passed away on January 18, as the result of paralysis of the throat.

He was born in Natick on June 15, 1886. In 1917 he went abroad with a machine gun battalion and saw service at Chateau Thierry, St. Mihiel, Verdun and other sectors. He was promoted to Lieutenant.

After the war he returned to the Natick Fire Department and became Lieutenant. He was appointed Chief in 1920 and became the first permanent member of the department.

The late Chief Neary is survived by his widow, a stepdaughter, and a brother, who is also a member of the Fire Department.

PROMOTIONAL STUDY COURSE

Herein is presented a series of definitions, questions and answers designed to aid fire department officers in preparing themselves for promotional examinations. In this department, which appears monthly, will be included questions typical of examinations held throughout the country.

Definitions

Fire Stop: An incombustible partition of fire resistive property between sections, cornices, frame walls, floors, etc. (not a complete cut-off, nor a fire wall).

Fire Tower: A brick or other masonry tower or shaft enclosing a stairway of fireproof material.

Fire Trap. A poorly constructed building with inadequate exit facilities, unprotected floor openings, hazardous occupancy, and containing much combustible material.

Fire Zone: A locality which seems to attract a certain class of tenants bent on incendiarism (a fire insurance term).

Flat Roof: A roof which has a pitch (slope) not exceeding 20 degrees.

Questions

(To be answered in next issue)

1. Explain in detail how, at fires, each of the following should be done, noting the dangers to be guarded against in each case:
   (a) Ventilate a cellar; (b) Open fire shutters from the outside when latched on the inside; (c) Extinguish an automobile fire.
2. An engine is pumping through twelve lengths of 3-inch hose, equipped with a 1¼-inch nozzle; the pressure at the pump being 140 pounds, and is discharging 400 gallons of water per minute.
   (a) What is the friction loss?
   (b) What is the nozzle pressure?

False and True Questions

(Is each question false or true? Answers in next issue)

3. T F—Nitric acid and sulphuric acid frequently cause fire when brought in contact with combustible materials.
4. T F—Clothes and other property found in closets at fires are never as valuable as is the furniture.
5. T F—Acid and chemical fumes are usually lighter than air and require top ventilation.
6. T F—Charged lines should always be on hand in the hold of vessels, where hazardous cargo is being removed or handled, for the purpose of extinguishing fire.
7. T F—Pictures and photographs should be given special care in performing salvage work on account of their being hard to replace.
8. T F—The effectiveness of salvage work is largely reduced if the water is allowed to reach materials before they are properly covered.
9. T F—The destruction of private property does not result in private loss only.
10. T F—Fire loss and damage to the vessel are sometimes lower if a ship is scuttled than if the fire is extinguished by other means.
11. T F—When overhauling an entire floor, men should start at both ends by clearing a space, and commence at the top of goods and work down to the floor.
12. T F—Atmospheric conditions never hinder the work of ventilating when the fire is a hot one.
13. T F—Elimination of heat and smoke make less water necessary to the extinguishment of fire.
14. T F—Foam is a good extinguishing agent for fires in bilges of ships.
15. T F—The dikes enclosing oil storage tanks may be constructed of either concrete or earth.
16. T F—Efficient salvage work frequently necessitates the carrying of a supply of sprinkler heads of various sizes.
17. T F—Ventilating work should always be commenced by truck companies immediately upon arrival at the scene of a fire needing ventilation.
18. T F—"Overhauling" is a term used in Fire Departments to describe the necessary detail work of cleaning up after a fire has been brought under control.
19. T. F—Down spouts on buildings used for carrying rain water to the sewer are usually of no aid in carrying off the water used in fire extinguishing operations.

Completion Statesement

20. In fighting marine fires it is best to remove the cargo from the..... decks first.
21. In cutting electric wires at a fire, they should be cut.....at a time.
22. When operating a stream from a wagon pipe, the stream should not be directed at an angle above..... degrees if full effectiveness is desired.
23. When using the life gun, it should be aimed.....the point to which the life line is to be sent.
24. The.....sprinkler system is more suitable for use in pier sheds than the.....sprinkler system.

Answers to Questions in Previous Issue

1. (a) If fire has not extended up through building, but is still confined to the basement, the point of greatest danger, insofar as the fire fighting forces are concerned, is the ground floor. When fire has been burning for some time, the floor beams will have become weakened and the floor may drop through due to the heavy weight of materials stored thereon.

From a fire-fighting standpoint, the chief danger in connection with fire burning in a basement is the possibility of it extending through vertical passageways, such as elevator wells, stairwells, etc., to upper floors. These points are the ones which must be first covered in fighting the fire.

On the other hand, where fire has extended up to the various floors, and is burning vigorously thereon, then the point of greatest danger will be the roof with the exposed metal trusses. These will weaken under the intense heat encountered at a fire in materials such as stored on the top floor and in this weakened condition may collapse, permitting the roof to fall in.

(b) Problem states there is danger of floor beams and roof trusses giving away. This would indicate that the roof trusses were exposed, as well as floor beams, and that roof trusses were not protected by ceiling on the top floor. Otherwise the fire, unless it had been burning for quite a long period and had thoroughly involved the entire structure, would not likely have entered above the ceiling of the top floor and gained such a hold as to seriously endanger the roof trusses.

On this assumption, then, the department will have to give its first attention toward saving the roof and thus preventing the possibility of collapse of roof and carrying through of floors below.

Precautions to be taken would be as follows: Immediately ventilate by getting ladder to the roof and having men go to the roof to open up over the two elevator wells. This operation will draw a great deal of the heat away from the upper part of the building, and will make possible operation at close range by fire streams. No men should be permitted in on any of the floors until the building has been ventilated and steps taken to prevent collapse of roof or any of the floors.

Just as soon as ventilation has been accomplished, one or two streams should be directed into the attic (or from the windows of the top floor, if there is no ceiling present) to cool off the beams. There is a possibility of heated beams warping when being struck with heavy streams, so that if large lines are being employed, they should be swept quickly back and forward so as not to chill the beams too suddenly. When the room has been opened up over the elevator shafts, the larger amount of heat will be drawn out and it will be merely a question of wetting down the material burning on the top floor and thus protecting the roof. While ventilation is being done ladders should be placed to the various floors so that lines may operate from windows, and be ready to enter on the floors as soon as the situation beneath the roof has been properly handled.

As soon as ventilation has been accomplished, the lines may enter in on the various floors, provided the condition of the roof beams would indicate that there is no danger of roof going through.

The gable end walls present a weakness in a building of this type, due to their usual insecure construction, and likelihood of falling outward if the roof sags. Officers should be on the alert to detect possibility of failure of these end walls, so that men may not be buried by the walls falling.

In the above operations no definite assignment of apparatus is considered, in view of the fact that problem neither gives size of building nor alarm on which officer is is operating.

This much may be said, however: If building is of large area, and if only a first alarm has been turned in, additional help would be called at once. The highly inflammable nature of the materials on the various floors, together with the excess weight and unprotected floor beams and roof trusses, will mean fast spread of fire and early collapse of floor and roof.

2. True; 3. True; 4. True; 5. False; 6. True; 7. True; 8. True; 9. False; 10. True; 11. False; 12. True; 13. True; 14. False; 15. True; 16. False; 17. False; 18. False; 19. False; 20. False.

21. .....uncouple.....
22. .....riser.
23. .....two.....
24. .....straight.....

Design of Fire Boats

(*Continued from page* 59)

There are six eight-inch four-stage multiplex pumps, of the Byron Jackson Pump Company.

"No. 2's" fire fighting equipment includes five monitor turret nozzles, one located on the main deck forward, one on top of the pilot house, two on the main deck aft, and one on top of an electrically operated telescopic water-tower having a maximum elevation of 45 feet above the water line. Each monitor nozzle is capable of delivering 3,000 gallons of water per minute.

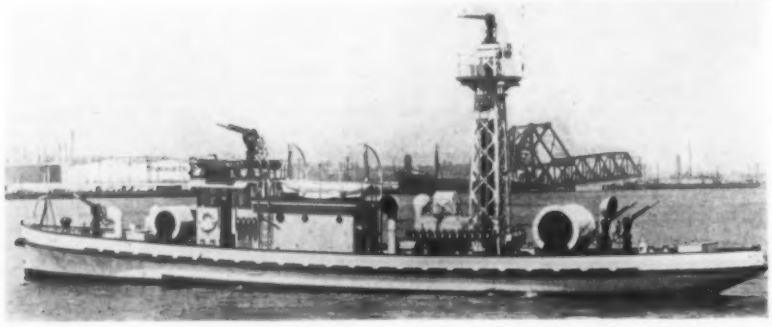
There are two hose manifolds on the main deck, one on each side of the dome over the machinery compartment, each having twelve connections for 3½-inch fire hose. There is also a foam set of 300 gallons capacity, located on top of the dome over the machinery compartment.

Fire hose is carried on four reels, the one in the fore hold having a capacity of 1,500 feet of 3½-inch hose. Two swiveling reels on the main deck, each hold 1,000 feet of 3-inch hose, and one swiveling reel on the main deck, holds 1,000 feet of 3½-inch hose. Storage is provided in the deck house for an assortment of nozzles, an oxyacetylene burning outfit, diving apparatus, smoke helmets, and miscellaneous fire-fighting equipment.

Both electric and hand-steering gear are provided, and the vessel is electrically lighted throughout. A hand operated capstan is provided on the main deck forward for handling lines and anchor-cable.

Fuel is carried in separate steel tanks located in the fore hold and after peak compartment. A water screen of perforated pipe is carried around the top of the deck-house and under the upper fender to protect the vessel when in operation close to a fire.

One of the Newest motorized fire fighting craft is the "Alki" in service at Seattle, Wash. Her steel hull is 123½ feet long 26 feet beam and she draws 7½ feet. The power installation on this fire-fighting craft consists of seven 300-horsepower six cylinder Winton gasoline engines. Four are direct connected to four-stage centrifugal pumps, two clutch connected to two four-stage and to the wing propellers, and one to the center propeller. The total capacity of the pumping equipment is 12,000 gallons per minute.



"L. A. City No. 2" of Los Angeles

A number of years ago, Portland, Oregon, discarded the two steam fire boats used for many years and replaced with three gasoline propelled vessels which were designed by A. D. Merrill, naval architect of Portland. The designer's idea was to create a small boat of sufficient pumping capacity to meet requirements, to be operated by the smallest crew possible consistent with efficiency. Another factor considered was that often delays were experienced in opening the many drawspans on the river bridges. The old fire boats were unable to pass under these bridges until the draws were opened. The gasoline power boats were built low and can pass under all the bridges as they stand, save on occasion of extreme high water.

Portland's fire boats are triplets; each is 85 feet long, beam 20 feet, with a draft of 5½ feet, and a displacement of 120 tons. They are equipped with two 565 horsepower eight cylinder Sterling Viking II gasoline engines on propeller drive developing a speed of eighteen miles per hour. These engines also serve on the pumps. In addition, there are two 425 horsepower six cylinder Sterling Viking engines direct connected to the pumps. The total pumping capacity of each boat is 9,680 gallons per minute at 200 pounds pressure.

A unique feature of each of these fire fighters is the method of control. The entire operation of the vessel is controlled from the pilot house; if necessary, the vessel can be operated by one man. Each boat is equipped with one main nozzle midship and smaller ones fore-and-aft. Each has a fuel capacity enabling it to operate continously for sixteen hours without servicing. A crew of five mans each boat—two in the engine room, two on deck, and one in the pilot house. Portland city officials state that these boats are expected to pay for themselves in ten years through the saving in operation cost.

After-Holiday Hazards

Through an unaccountable bit of good fortune, a group of fifteen small boys in Montreal, Ont., are alive today, minus tell tale marks of any kind.

As the Garbage Department was not prompt in its collection of Christmas trees, a group of small boys went up one particular street and in yards and brought all the discarded trees they could find, to the top of a hill. Here they built a house of the trees, about twenty-five feet square. Beside this enclosure were placed other trees in a pile, about twenty feet square and fifteen feet high. These trees were very dry. One night this tree play hut caught fire and luckily the boys managed to escape.

The mass of burning trees and the parts of the hut started rolling down the hill. Fortunately again, several small trees prevented the burning trees from rolling on to a busy street. Firemen quickly extinguished the fire with hose lines.

This illustrates the need in large cities for a definite program of what to do with the dried discarded Christmas trees. As a suggestion, why not have the Chief take the initiative and just after New Year's have a certain day set on which the Garbage Department will collect the trees. The refuse will then be brought to the city incinerator and destroyed. Also the Chief should supervise the sale of these trees. Generally they are displayed in a vacant lot or alley, against a building. The Fire Department should approve of the location of these tree markets, and should charge a permit fee to cover inspections.

JOHN KARL LEE.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

PROPER PLACEMENT OF A TRUSSED LADDER

JUST as there are two sides to a question, so, too, are there two sides to a trussed ladder which is placed against a building.

In some department practices, such as drying hose or connecting lines, there seems to be a unanimity of opinion, but not so with the placement of trussed ladders.

There are some who believe that the curved side should be placed next to the building, and others who are strong in their arguments that the flat side towards the building is the proper practice.

Therefore, the round table discussion in this issue should prove interesting. The problem in full is printed in the box on this page.

In the box on the following page is the problem that will be presented in the next issue. Should you have some comments that you would like to add, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 West 40th Street, New York, N.Y.

Discussion of the Question

H. C. Crumb, Chief, Bay City, Mich.: This department places all of its ladders with the trussed side out. I feel that our ladders are made to be used that way. With the rungs placed low in the side rails toward the straight side, by using these ladders with the truss out, it gives the men a better foothold and also prevents hose lines from slipping off the sides. I think the ladder is stronger used with the truss out.

William Freeh, Chief, So. Bend, Ind.: The responsibility of raising and placing ladders in a safe manner rests upon the officer in charge. Firemen should never be permitted to climb a ladder until the word is given that the ladder is set and safe with the curved side against the objective. The same method is used in our modern bridge building, which I consider in the same category.

M. E. Clark, Chief, Williamsport, Pa.: In placing a trussed ladder at a fire it has been the practice in our department to place the straight side towards the building. However, with some makes of ladders I can see no great advantage which side is toward the building, due to the fact that the rungs are in center full length.

In some ladders, however, the rungs are off center as much as two to three inches toward the straight side. In my opinion, this type of trussed ladder should be placed with the straight side toward the buildings, for it would be more reasonable to think that the heavy side of the ladder should be placed where the most weight would be carried on the outside. In addition, with the deep side of the ladder out, we have a better chance of keeping a charged line on the ladder.

Alex Dotson, Chief, Elkhart, Ind.: In our department we place the curved or truss side to the building.

We believe that this is the proper way to place them and have never practiced any other way. In our department we use ladders built by a manufacturer in Ohio and the construction of them is such that, in placing the truss side down, or to the building, we believe that we get the maximum strength of the ladder.

We can't see any advantage or disadvantage whatsoever in the way you raise them, as far as raising them is concerned.

W. H. Joynes, Chief, Richmond, Va.: I always place the straight side to the wall. I have been working with ladders all of my life, having been a painter by trade, before coming into the Fire Department, and having been in the Fire Department for the past fifty-six years; I feel that I know a little about working with ladders.

Wm. J. Lutz, Chief, Wilmington, Del.: The curved or cradle side of the ladders is faced toward the building. Perhaps using the word truss side is better.

The above way is the best way, in my opinion, in view of the fact that the space from round to face of the beam is the same distance. In carrying tools, there is less chance of obstruction and the stress is in tension.

However, if the ladder is double trussed or with truss pattern, it makes no difference which way the ladder is placed, as one set of struts will be in tension and the other in compression.

F. W. Donnelly, Acting Chief, Lincoln, Neb.: We place the curved side of the ladder toward the building.

I think the curved side toward the building is the proper way to place a ladder. It gives the straight side for climbing, and less obstruction when stretching hose lines over the ladders. The bolt heads are countersunk on the straight side, whereas nuts are exposed on the curved side. In case one were required to slide down the ladder to escape there would be no danger, as the straight side is the smoothest.

Charles E. Schrom, Chief, Washington, D. C.: The members of this department are instructed to place trussed ground ladders with the trussed or curved side toward the building, because it is our belief that a ladder in this position is stronger than it would be if placed with the straight side toward the building.

Leo J. Urbanski, Chief, St. Joseph, Mo.: We place the straight side toward the building, that is the truss side is out.

I believe that the truss side out gives you better climbing. We use the beam for our hands. With the truss, there is something to serve as a railing.

W. H. Fuller, Chief, Vicksburg, Miss.: I think it is best to put the curved side to the wall as you can put more weight on the ladder.

This method appears to be the best for holding the load. The curve side gives it strength.

Jack Landers, Gadsden Fire Dept., Gadsden, Ala.: Our ladders do not have a straight side. One side has the rungs in it, while the other side is called the truss side. We place the truss side to the building, because it strengthens the ladder. If you put the truss side away from the building, then the ladder might have a tendency to buckle and break.

John J. Cullinan, Chief, Morristown, N. J.: The members of our department are instructed to place the trussed or curved side against or toward the building.

With the trussed or curved side against or toward the building, it gives the ladder better stability and support.

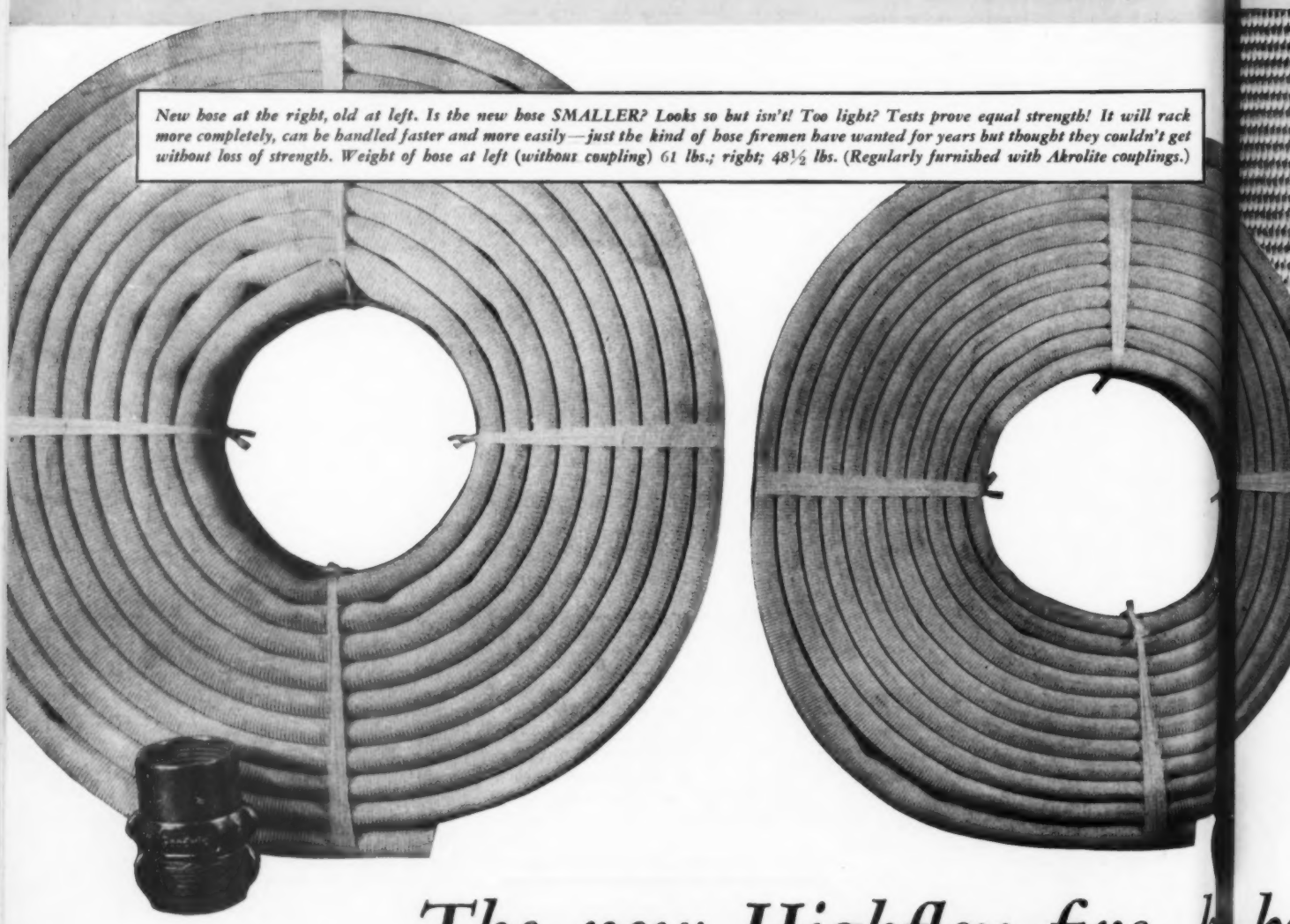
Frank Van Atta, Chief, Kalamazoo, Mich.: We place our ladders with the small beams in.

Although our trussed ladders may be climbed with either side up, I think the greatest strength is available with the truss beams in. Great care should be exercised as to the proper settings for different length ladders. Care should also be taken to see that

HERE IS THE PROBLEM

In placing a trussed ladder at a fire, which way do you place: (1) straight side toward building, or (2) curved side toward building? Which way do you think is the best to place it?

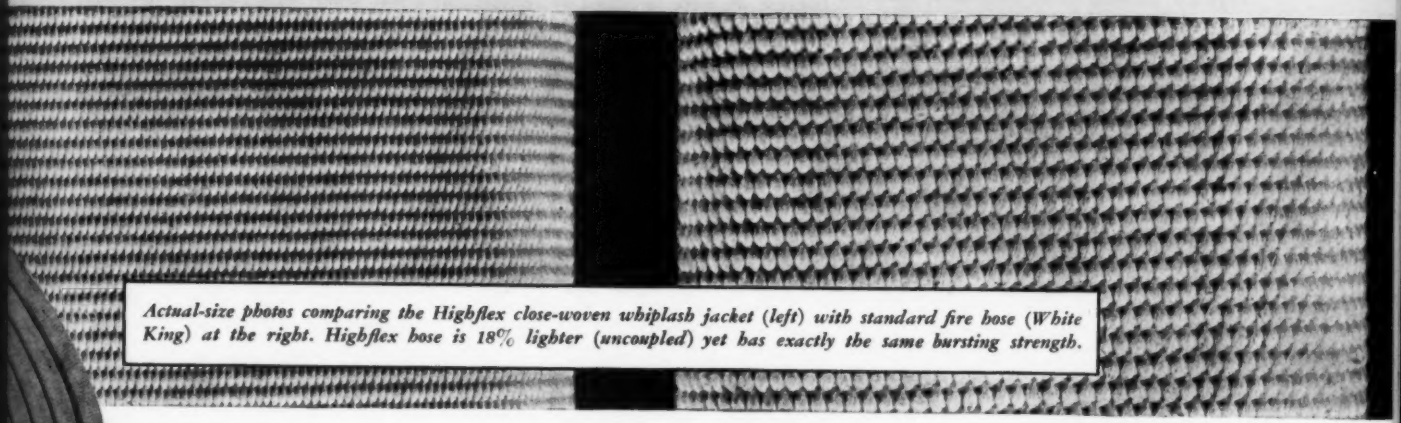
New light
faster



New hose at the right, old at left. Is the new hose SMALLER? Looks so but isn't! Too light? Tests prove equal strength! It will rack more completely, can be handled faster and more easily—just the kind of hose firemen have wanted for years but thought they couldn't get without loss of strength. Weight of hose at left (without coupling) 61 lbs.; right; 48½ lbs. (Regularly furnished with Akrolite couplings.)

The new Highflex fire h-b

lose brings re-fighting



Actual-size photos comparing the Highflex close-woven whiplash jacket (left) with standard fire hose (White King) at the right. Highflex hose is 18% lighter (uncoupled) yet has exactly the same bursting strength.

Longer lengths can be dragged or carried; firemen work faster; flow of water increased; racking and handling are easier. Positively no loss in strength.

GOODRICH announces Highflex hose, a new thin-wall hose with jackets woven from small light cords—whiplash type. Filler cords counter-twisted. Jackets are thinner; size of cords is much smaller than in standard fire hose.

Yet this hose is guaranteed equal in bursting strength to any hose on the market.

"Give us lighter, more flexible hose," firemen have been saying for years. But it went without saying they meant hose which would be just as strong, would last just as long as any hose in use.

Machinery has been made lighter with aluminum. Streamlined trains and automobiles are lighter and stronger because of improved design. *Now the same is true of fire hose.*

Order a sample length from your distributor. Test it; compare it with standard fire hose. Keep it at hand to talk over with your city officials. The B. F. Goodrich Co., Akron, Ohio.

The B. F. Goodrich Co.,
Akron, Ohio.

Please have nearest distributor

☐ Send 50-ft. sample length of new Goodrich Highflex fire hose ($1.20 per foot coupled).
Thread .....

☐ Check here if you prefer Flexseal type—with Hydroseal anti-mildew treatment ($1.25 per foot coupled).
Thread .....

☐ Send further information. (We expect to be in the market about .....)
(Date)

Name .....

Position .....

Address .....

City & State .....

h-by **Goodrich**

weight is properly distributed on different length ladders. Stay poles should also be placed at the same distance and angle from the ladder. If this is not done more strain is thrown on one pole than the other, and it might cause one of the poles to break and the ladder to tip over.

T. M. Cook, Jr., Chief, Valdosta, Ga.: I place a truss ladder with the straight side to the wall. I got this idea from the great bridge builders, who undoubtedly have studied this question, and have arrived at the best solution. As you may have noticed, in bridge building the trusses are always on top. A ladder is in fact a miniature bridge.

S. J. Flores, Chief, Shreveport, La.: In placing a trussed ladder in our department we use the curve side toward the building. This method is used for the three following reasons: First, because we use this method in our drill school; second, because lines can be carried up easier and operated from them more easily; third, because lines can be strapped to the ladder thrown to one side, where traffic conditions are better on ladder.

W. G. Hobson, Chief, Winston Salem, N. C.: I have always set the straight side of the truss ladder to the wall.

Howard Travers, Chief, Baltimore, Md.: In placing a trussed ladder at a fire, we place the curved side toward the building. We believe this is the best method because it relieves the ladder of strain and permits free use of the ladder.

J. Milton Galvin, Chief, Naugatuck, Conn.: In our department we follow the practice of placing the straight side of the ladder toward the building. It is our opinion that this gives the ladder more strength and also makes it firmer.

F. L. Campion, Chief, Fargo, N. D.: We place the straight side of the ladders to the building at a fire. We find that our trussed ladders sag or bend more with the truss side placed toward the building.

Chris Noll, Chief, Poughkeepsie, N. Y.: In our department we place the straight side of the ladder toward the building. Placing the straight side of the ladder toward the building, in my opinion, is more practical.

J. C. Heney, Chief, Barre, Vermont: We place the curved side of the ladder toward the building at a fire. I think the practice of placing the curved side is the best. The ladder is stronger that way. I believe the manufacturer had that in mind when building such ladders, as it acts as a brace. Furthermore the rails would be a handicap in the event of carrying a person down the ladder during rescue work activities.

Wm. F. Woods, Chief, Portsmouth, N. H.: In placing a trussed ladder at a fire, we put the curved side toward the building. We were advised by the fire apparatus manufacturers, who make the only truss ladder that we know anything about, that the above mentioned method was the best. There are other so-called trussed ladders, but to my mind they are merely block ladders.

J. Ray Roe, Chief, Alibene, Texas: There is, or should be, a uniform way of setting all ladders and in some departments the type construction of the ladder has something to do with the setting.

The only way to actually determine the strength of trussed ladders (with the truss next to the building or on the top side away from the building) would be to take several ladders, place them both ways and test to destruction.

We place our ladders with the truss to the building. In our training and first experience, we placed them so because we were informed by reliable engineers that the ladder would carry the greatest load if placed this way. Secondly, the type construction of our extension ladders requires that the ladder be placed with the truss next to the building (this throws the fly on the under side of the bed ladder and next to the building); because if the ladders were placed otherwise there would be a missing step on the fly of the ladder. This would mean that the men climbing the ladder would have to break stride or step through the fly to the bed ladder.

Firemen who argue this question refer to the position of the truss on aerial ladders and pattern accordingly. They forget that this is a different type truss and also the truss is on top to save the additional space that would be required if the truss extended down into the racked ladders.

To be forever changing your method of raising and setting ladders will cause only confusion on the fire grounds. Adopt one method and stay with it!

HERE IS THE PROBLEM FOR THE NEXT ISSUE

Have you had any delayed fire alarms due to use of telephone, where information given was inaccurate, insufficient or inaudible?

If so, what were the results?

What method would you suggest to insure prompt, accurate transmission of fire alarms by the public?

John J. Towey, Chief, Newark, N. J.: All truss ladders, after having been raised, should be placed into position so that the truss-side of the ladder points towards the building.

The evolution of placing a truss ladder against a building as practiced in our department, calls for the following steps: (1) the ladder is carried to the designated spot where it is to be raised, truss-side down and with the foot-end pointing towards the building; (2) two men foot the ladder while two men raise and place the ladder against the building; (3) when the ladder has been so placed, the two men who raised it give the ladder a half-turn, which causes the truss-side to point towards the building; (4) the foot of the ladder is then pulled away from the building and placed at its proper angle.

To determine the proper distance any ladder is to be placed away from a building, so it will set at a proper and safe angle, we use the following mathematical table: divide the length of the ladder by five and add two to the result, which will be the required number of feet that the foot of the ladder should be placed away from the building. For example: a ladder is thirty-five feet long. Thirty-five feet divided by five feet equals seven feet, plus two feet equals nine feet, which is the correct distance at which the foot of the ladder should be placed.

The objective of a truss arrangement on all long ladders is to strengthen the beam-side, which in turn, removes the possibility of its collapse, when standing at an improper angle, or when used in connection with the rescuing of heavy persons and the operation of high calibre hose streams. If the ladder is placed with the straight or beam-side towards the building, the strength of both beam and truss-sides is weakened, causing the ladder to break in the middle when an overload is applied at that point. Therefore, all truss ladders should be raised and placed against a building with the truss-side towards the structure.

Hugo R. Delfs, Chief, Lansing, Mich.: In our department, we place the truss or curve side of the ladder to the building.

We think it is best this way. Using a wall truss ladder, it does not make any difference as far as the strength of the ladder is concerned. No doubt, in the winter time, when a ladder is covered with ice and a line of hose running up the ladder, it would afford more protection for the men climbing if the truss were out. But this would not apply to a truss extension ladder and should not be used this way.

J. A. Roberts, Chief, Tucson, Arizona: Place curved side of the ladder toward the building. The greatest strength is available when trussed ladders are set with the truss beam or curved side in toward the building.

The reason is that 99 per cent of all bridges and trusses are built with trusses under.

S. E. Hansen, Chief, Dallas, Texas: If rungs are in blocks between beam and truss, place straight side toward building. We understand manufacturers of this type ladder recommend this practice. Truss up is preferred if strength of ladder is equal. The hose then will not slip off. If rungs are in the beam, placed curved side toward building.

W. A. Foster, Chief, Boise, Idaho: Always place curve side of ladder away from the building for the following reasons: First, because it is easier to climb; second, because it adds one-third or more strength to the ladder. The main thing that a fireman thinks of is safety to the public and himself.

Harry J. Brown, Chief, Reading, Pa.: In placing a trussed ladder we always place the straight side toward the building. I personally think it is the proper way of placing ladders, due to the fact of the curved angle, which serves to strengthen and balance ladders properly.

M. J. Dunphy, Chief, Sacramento, Cal.: The straight side of the ladder should be toward the building.

The above way is the best because it will hold the weight. All trussed buildings have the truss on the top to take care of the weight. Garages are a good sample of the use of trusses.

C. L. Downing, Chief, Grand Junction, Colo.: We place our ladders truss side out. It gives us a railing in case we take hose lines up the ladder, or a trough for laying lines also pulls against truss, instead of pushing it down. We may be wrong in this, but it seems to be proper.

O. A. Owens, Chief, Ogden, Utah.: I always place the trussed side of ladder away from the building (that is, the curved side), because it is built for strength from the trussed side. If placed the other way about, the ladder would have a tendency to spring with weight more readily.

A. T. Callahan, Chief, Harrison, N. J.: We place the curved side of the ladder to the building. We find the trussed ladders much stronger this way.

E. I. Kingsley, Chief, Aberdeen, S. D.: The straight side of the ladder is placed toward the building. In this position they will stand more strain.

Rue Chrisman, Chief, Roswell, N. M.: In our school of instruction we have been advised to place the straight side next to wall. I believe by placing the curved side up, it acts as a support for the straight side.

H. A. Johnson, Chief, Ventura, Cal.: We place the straight side of the ladder toward the building. The truss is made to give strength to the ladder. If the truss side was placed next to the building, the truss would be upside down. When you wish to carry weight on a bridge or a roof you do not put the truss upside down and expect it to carry the weight.

E. A. Johnson, Chief, Boulder, Col.: The curve side of the ladder is placed toward the building in our department because curvature of truss acts as a bracer and adds strength to the ladder.

B. R. Warlick, Chief, Jackson, Tenn.: The straight side is placed toward the building in placing a truss ladder, because I think it is stronger and safer. However, I believe it is easier to climb with curved side toward the building.

C. Jefferson, Asst. Chief, Racine, Wis.: We climb on the straight side of the ladder, the truss being in toward the building. A truss roof ladder is placed straight side flat on the roof with the truss up.

* * *

Answers to Previous Question

The following replies are in answer to a previous question on the fires caused by oil burners:

N. Taupier, Chief, Pawtucket, R. I.: We have had quite a number of fires in this city, due to oil burners and their appliances. We do not consider them a serious hazard, except when carelessly handled. Most of the damage caused by these oil heater fires were due to the smoke thrown off. Most oil burner fires have been caused by minor troubles with the electrical equipment.

Henry A. Fox, Ex-Chief, Boston, Mass.: Experience in this city has shown that the number of fires caused by oil burners used for heating in dwellings has been small in comparison to the number of installations.

I do not consider these oil burners to be a serious hazard. The cause has been due to flooding of the burners and poor installation.

Kansas Chiefs and Firemen to Meet

The fiftieth anniversary of the Kansas State Firemen's Association will be observed by a joint meeting to be held with the Missouri Valley Fire Chief's Association, at Hutchinson, on April 26 to 29. The Kansas Chief's Association is twenty-one years old.

Routs for Fire Runs

The Fire Department of Baltimore, Md., has placed running cards in each of the fire houses. On the reverse side of the cards are hand drawn maps, which show the route to be followed by fire apparatus in answering calls to any of the boxes in the district. It is believed that this new plan will be of great value in answering calls to the outlying sections. Some time ago a company had difficulty in locating a four-alarm fire in Roland Park.

OTIS SMITH.

Firemen Respond in Tuxedos

How style in firemen's uniforms changes! First it was the red flannel suit, then a change to dark blues, and now there is a case of dress suits being worn by firemen at a fire.

It was a surprised woman who saw the fire apparatus roll in, with firemen in evening attire to fight a fire in her chicken coop. After extinguishing the fire, which claimed fifteen chickens, the Loveland, Col., firemen explained that the alarm came in as they were attending a lodge memorial service.

Chief Moroney, Meriden, Honored

With over two hundred guests in attendance, and Chiefs and officials from various parts of the state present, Chief John J. Moroney of the Meriden, Conn., Fire Department, was honored on January 27, on the thirtieth anniversary of his appointment as a member of the

Chief J. F. Moroney

Meriden department. A testimonial dinner was arranged at the Elks' Club, Meriden.

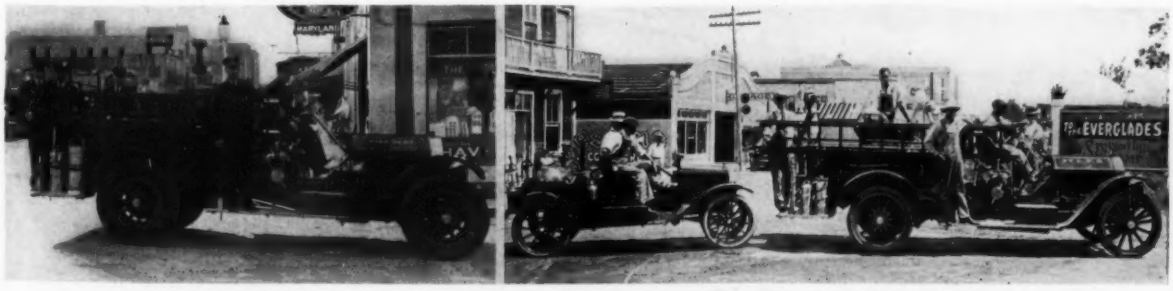
Mayor Stephen L. Smith, of Meriden, complimented Chief Moroney highly on the long years of continuous service he gave to his native city. He said:

"Chief Moroney is a credit to our city and we are proud of him. His devotion to duty and his ability as a fireman and official has been proven in the annual low fire loss of which we are glad to boast."

Presented with a silver cocktail set, Chief Moroney replied fittingly to those who complimented him. Chief Moroney said that much of the success of the present department is due to the splendid personnel, the efficiency of the men and the fine support given him by the Mayor of the city and the Board of Public Safety.

Speakers included Chief Henry R. Taft, Norwich, President of the Connecticut Fire Chiefs' Club; David W. Hartford, Secretary of the Connecticut State Firemen's Association, and Daniel J. Donovan, ex-Mayor of Meriden.

THOMAS F. MAGNER.



Fire Apparatus of 1919 Modernized by Fire Department of Ft. Lauderdale, Fla.

At the right is a picture of an American-LaFrance pumper that was purchased in 1919. Under the direction of Chief John L. Cody, and the expenditure of about four hundred dollars, the apparatus has recently been converted to the condition shown by the photograph at the left.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Maximum Hose Length

To the Editor:

How far can a 1,000 gallon pumper supply a ⅞-inch tip, at 50 pounds nozzle pressure, through a 2½-inch hose?

G. J. R.

Answer: The answer to the question depends entirely upon the maximum pressure at which the pump can be operated, as well as the discharge at this pressure.

The maximum pressure is not indicated in the problem but we will assume that it is 350 pounds, which is a fair pressure for a thousand gallon standard pumper to deliver.

The discharge from a ⅞-inch nozzle at 50 pounds nozzle pressure is found as follows:

Discharge $=29.7 \times .875 \times .875 \times \sqrt{50.}$
$=160$ gallons per minute approximately.

The friction loss in 2½-inch hose carrying 160 gallons per minute is 6.6 pounds per 100 feet.

Assume the maximum engine pressure to be 350 pounds.

A pumper at 250 is capable of delivering ⅓ its rate capacity or 333 gallons per minute.

At 350 pounds it should be capable of delivering about 238 gallons per minute.

This is found as follows:

Capacity at 350 pounds
$=250 \times 333 \div 350 = 238.$

The flow from the nozzle is 160 gallons per minute. Hence the engine has plenty of capacity at its maximum pressure of 350 pounds to supply the nozzle at 50 pounds pressure.

Engine pressure is 350 pounds and nozzle pressure is 50; therefore there will be 300 pounds left to overcome friction loss in the line of hose.

A pressure of 6.6 pounds is required to overcome friction loss in each 100-foot length of hose. Therefore the total number of 100-foot lengths through which water can be pumped is $300 \div 6.6$, or 45.4.

In other words the total length of line of hose in feet would be 4,540, or in terms of 50-foot hose lengths, 4,500 feet.

Pump Pressure Using Fog Nozzle

To the Editor:

What pressure is necessary at the pump to give 125 pounds at a fog nozzle through 150 feet of ¾-inch rubber chemical hose?

E. L. B.

Answer: With reference to the question you ask regarding engine pressure necessary to pump water through ¾-inch hose and give 125 pounds at a fog nozzle the following may be said:

With one style of fog nozzle, which gives 15 g.p.m. at 125 pounds nozzle pressure, the friction loss in ¾-inch rubber lined hose would be 29 pounds per hundred feet. For 150 feet it would be 44 pounds.

If 125 pounds is wanted at the nozzle, then the engine pressure would have to be 125 plus 44, or 169 pounds.

If another size is used, where the discharge is 35 pounds at 125 pounds nozzle pressure, the friction loss in ¾-inch rubber lined hose carrying 35 g.p.m. will be 140 pounds per hundred feet, or 210 pounds for 150 feet.

Then the engine pressure would have to be 210 plus 125, or 335 pounds.

Extinguishers on Oil Fire

To the Editor:

I would appreciate your opinion as to why the different types of extinguishers were ineffective on the power house fire in Newark, N. J. In the January issue of FIRE ENGINEERING the article on this fire states that there was a heavy draft which carried away the gases, rendering the extinguishers useless. Wouldn't the drafts have similar effect on the fog nozzle?

D. B.

Answer: The failure of the various types of extinguishers at the Newark Power Station was largely due to the conditions at the fire. Oil was burning fiercely in a small confined space, or vault, and it was not possible for the men to get within the vault to operate hand extinguishers. This prevented the gas from the carbon dioxide extinguishers from reaching the burning surface of oil, and had like effect on the carbon tetrachloride extinguishers. Foam caused too much agitation and splattering of the oil to be used, so that foam extinguishers were tried for but a short time, and without effect.

In using the fog nozzle, a ten-foot section of pipe, to which the nozzle was attached, enabled the Fire Department to place the nozzle in such a position that the fog completely enveloped the fire and quickly extinguished it.

Water on Oil Fires

To the Editor:

What is the technical explanation as to why water will not extinguish gasoline fire or other oils?

A. H.

Answer: Water thrown on fires burning in tanks of gasoline or other oils commonly encountered by Fire Departments sinks to the bottom of the tank and does not produce an appreciable extinguishing effect. Instead, it raises the level of the oil in the tank and may possibly cause overflow, with accompanying dangers.

Water, as discharged from a fire stream, strikes the oil surface and not being broken up into fine vapor which is readily vaporized, the drops of water sink in the oil to the bottom.

In this operation another serious hazard arises. An oil which has been burning for some time reaches a high temperature, and then subjecting it to streams of water may cause a violent disturbance in the tank which often results in overflow or spattering of burning oil beyond the tank.

However, in finely atomized form, water is highly effective in extinguishing oil fires. Here the particles of water are so small that they are vaporized before they have a chance to sink into the tank. The vapor, striking the hot surface of the burning oil, creates an emulsion which retards combustion. The fine particles of water are vaporized in the atmosphere within the zone of combustion of the fire and, generating steam, have a very pronounced extinguishing effect upon the fire. A third effect is also produced by the presence of the fine particles of water in the zone of combustion and this is the cooling of the zone of combustion, through absorption of heat by these fine, divided particles of water. The combination of the three effects in most cases will result in the extinguishing of the oil, provided there is plenty of fine spray, or "vapor" present.

This is the method of extinguishing oil fires by the use of so-called fog, or vapor, nozzle.

Water on Chimney Fire

To the Editor:

Is there any danger of cracking a chimney when it is burning out, if the line from the booster tank is used?

J. C.

Answer: Where the chimney is lined with tile, such as you find in concrete block construction, if the fire has been burning for some time there would probably be danger in using a solid stream of water on it. The tile might crack.

A safer way to apply water is to do as one department does, and that is to use a small spray nozzle, producing a very small spray. This nozzle is lowered down the chimney and the fine spray does not afford enough water to chill the surface of the chimney lining and hence no cracking occurs.

There would probably be no serious danger of brick lined chimneys cracking when subjected to the heat of the chimney fire and then the streams from a

booster line, although the mortar would probably disintegrate to some extent.

Water streams have been used for quite a number of years on such fires and in the case of brick chimneys no great amount of damage was reported.

Plans Made for New England Chiefs' Convention

Plans are going forward for the fifteenth annual convention of the New England Association of Fire Chiefs, which is to take place at The Balsams, Dixville Notch, N. H., on June 22 to 24.

Chief Carl D. Stockwell, Burlington, Vt., President, and Chief John W. O'Hearn, Watertown, Mass., Secretary-Treasurer, are laying out a fine program for this gathering of fire officials, which promises to be unique in the list of conventions, since the headquarters will be at a large summer hotel which is being opened ahead of the regular season especially to take care of the convention crowd.

The extensive establishment is rated as one of the foremost resort hotels of America. The hotel orchestra will be on hand to furnish music for concerts and dancing; a fine golf course will be at the disposal of those attending the convention; and there will be boating on Lake Gloriette, as well as swimming and canoeing. The hotel is beautifully situated directly on the shore of the lake.

The exhibits will be held in a 300-car garage directly in the rear of the hostelry, and the convention meeting hall will be on the second floor of the same building.

Rates will be six and seven dollars per day for each person, including three regular meals daily, with no extra charge for the annual banquet.

HARRY BELKNAP.

By William Paul Babcock

AN inconspicuous item in a New York newspaper announcing the annual banquet of the New York fire officers and "buffs" "Cycle Club," mentioned that one of the speakers would be the man who introduced me to salvage work, no less a person than Captain Albert Sidney Johnston ("Sid" to me), retired, of the New York Fire Patrol.

If he would, Cap'n Sid could tell some very gripping stories about the life of a smoke eater, and not "tall" ones either. But he prefers to really enjoy the retirement and rest he so well earned in 50 years of service with the New York (insurance) salvage corps.

But I am sure he could have no objection to my telling one of his experiences, coming as it does so soon after the unfortunate Brooklyn Jewish Hospital fire, tieing with the aforesaid dinner announcement; an incident which reminds me of another very important possible use for salvage covers.

As I recall it, Cap'n Sid was feasting with his Patrol No. 7 crew in their newly opened quarters in Norfolk Street, in the closely packed Ghetto. The festivities were disturbed by the appalling cries of "Fire!" in the street and all hand jumped to their "rig," to find the cause only a few doors away in a corner tenement. Framed in a top (fifth) floor window was a young mother with a child, about to leap. It is no exaggeration to say that she could readily hear Cap'n Sid's command to wait, as his voice was one that required no amplification. And wait she did, until his crew and guests had secured a good grip on a salvage cover spread out like a life-net. Then the girl was told to jump, and two lives were thus saved, although there were some minor broken bones and a completely wrecked cover.

The thought just occurred to me that training schools might practice this technique, for although excellent, improved nets are now afforded, usually for the "hooks," the Patrol may often beat them to the draw, as was the case in the instance just related.

But I would not have you think that my friend and mentor waited for emergencies to decide what to do. It is a fact well known and freely admitted by many fire officers doubtless now retired, that Cap'n Sid was a natural genius in fire fighting, and adding to this the fact that he served for over 40 years below Fourteenth Street, the oldest section of the city, the most diversified section in types of construction and occupancy and therefore the worst from a fire-fighting angle, made his advice invaluable, not alone to those serving in this area, but to one and all on general principles. It was about this time that fire officers were really getting down to fighting fires on paper before they occurred.

My chief gain, I consider, from my contact with this really eminent smoke eater, was that he imbued me with his life-long policy of passing on to others what he had learned — a true missionary! Fired with this spirit, I have tried to spread the gospel of salvage work among my fellow volunteers.

So, if you get any good out of this Arch of knowledge, you will please remember that its foundation was soundly laid and it is even now held firmly in a useful position by the spirit of that rugged Keystone whom long ago I lovingly gave the new name "God-father of the Nyack Fire Patrol."

The Balsams, Where the Convention of the New England Association of Fire Chiefs Will Be Held

Des Moines Fire Loss Increases

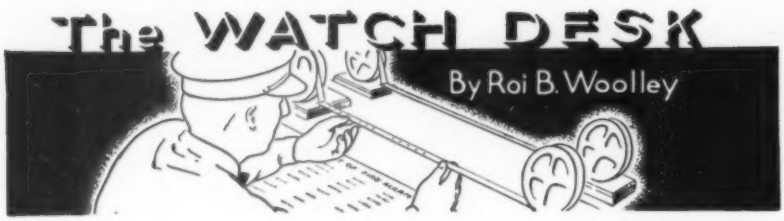
Des Moines, Ia., reports a per capita fire loss of $2.14 or a total of $144,956 for buildings and $161,258 for contents during 1936. There were a total of 2,648 alarms. During the month of July there were 476 calls. Chief Burnett was pleased at the low loss per fire which averaged $138.10.

The 1936 high period followed a five-year period during which the average per capita loss was less than $1.50. The 1936 losses were the highest since 1930.

Firemen Injured in Crash

Three volunteer members of the Eagle Hose Company, of Ansonia, Conn., were seriously injured on January 25 when a hook and ladder truck upon which they were riding enroute to a fire, crashed into the rear of a trolley. Six other volunteers were also injured but less seriously. One fireman riding on the apparatus at the time of the crash, was thrown into the side of a parked automobile. His body smashed the window in the left front door. Damage to the fire apparatus was $1,000, according to Chief James Brett.

THOMAS F. MAGNER.



Our inquiring reporter overhauls the firemanic news of the day.

Fire Second to Former King Edward

Fire squad answering alarm from home of Mrs. C. H. Wilson, Columbia (S. C.) found her engrossed in former King Edward's radio address. She said "If the top of the house burns, providing it doesn't cave in, I'm still going to hear the King." While they fought fire, she listened-in.

Fire Station Padlocked

Padlock now bars entrance to only fire station in Lunenburg (Mass.), town of 3,500. Key is located in glass-door box labeled "To be broken only in case of fire." Closing of station and resignation of Chief William Harley and one of his men, as well as dismissal of only permanent fireman, climaxed long-standing feud between call-men and Board of Fire Engineers. Chief resigned, and sixteen remaining call-men threaten to do likewise, as result of Board's ordering recreation room in station closed for "economical reasons."

News Flashes

Well, New York City's three platoon system is actually in affect. . . . Police of Philadelphia are seeking incendiary, who, for fifth Sunday in two months, started fires in the City Hall. . . . A monastery in Rimouski, 160 miles below Quebec, burned, causing 231 pupils and nuns to flee for lives and doing $150,000 damage. . . . Basing his calculations on previous years' statistics, M. B. Pratt, State forester, California, claims that careless smokers will start 47,000 fires during this year. . . . When Canton-Hongkong express took fire, over 100 persons were killed; engineer sped 15 miles before he knew of blaze. . . . Nicholas Tucci, 46-year old furniture mover, confessed to setting fire in basement of Bronx (N. Y. C.) building where he lives, blaming act on broadcast put on by the N. Y. F. D. over Station WHN, which was a reconstruction over the air of the Triangle Shirtwaist factory fire, March 25, 1911, in which 148 persons lost their lives. Program is known as "Flame Fighters" and is well done! . . . The 688 guards who patrol government buildings in Washington are given stiff training in fire fighting; classes are held in old Land Office Building. . . . State forest fires in N. Y. for 1936 were cut 533 under the mark of 1935. . . . When home of David Marcus, Fishkill (N. Y.) burned, ruins were sifted without success to find salvage, $15.000 to $20,000 worth of jewelry. . . . Three officials of Transcaucasian town of Mozhgo were sentenced to prison camps for two to five-year terms for alleged criminal carelessness in arranging a New Year's tree celebration, which ended in burning of 12 persons. . . . A 17-year old crippled girl, Nadine Yealey, Hanover (Pa.), trapped in blazing bed, burned to death; her father badly burned attempting to rescue her (how long will cripples be left unattended, or housed on inaccessible upper floors?). . . . 3-platoon idea so attractive that five N. Y. City policemen quit job to enter F. D. . . . Thieves who were angered because they couldn't bust safe at W. T. Grant store, Sacramento (Cal.), set fire to building, causing $150,000 loss. . . . Clifford Lenius, aged 16, confessed in Buffalo (N. Y.), to setting six western N. Y. fires in last three years, due to his need for a "sleep-inducing thrill." . . . Australia had a $5,000,000 fire, destroying Queensland rum distillery. . . . "Guess it's my annual fire" Chief Charles Dougherty told his men, as they answered alarm in Malone (N. Y.). It was his own home. Damage recorded as 'minor.' . . . Aaron Handler, aged 73, died as result of fire in Oxygen tent in a Brooklyn hospital; a doctor received first degree burns aiding victim. . . . In Quincy (Mass.) 20 firemen responded to alarm from owner of a wandering turkey. They chased bird over roofs, up extension ladders, etc., without catching it. Neighbors finally grabbed truant 'turk.' . . . Angered by what she thought excessive taxes on her residence, Mme. Du Fau, aged 47, Chinon, France, burned down home and herself in it. . . .Firemen of Indianapolis were called three times in an hour to extinguish roof fires in home of J. A. Strack due to sparks. . . . In Ottumwa (Ia.), John Wyatt, tavern owner, hid $1,200 in an oven. Waitress lighted fire in stove leaving Wyatt only handful of ashes.

Couldn't Emulate Washington

The Father of His County, it is said, stood on one bank of the Delaware and threw a dollar across to the other bank (money went further in *those days*). Well, Trenton's firemen tried to span the stream to get at a fire which broke out in Rotary Island, in middle of river, but couldn't make it. Swift current prevented effort to tow a line over—they had to stand by and watch building burn.

Faints—Falls Out Window—Misses Fireman

Miss Bessie Reynolds, aged 33, Cedarhurst (L. I., N. Y.), was injured when fire swept three-story dwelling. She and two children were cut off by flames, fled to third story window. Firemen of Lawrence-Cedarhurst F. D. had just rescued man down ladder and were going after Miss Reynolds and others when she fainted and fell 30 feet to ground, in her fall just brushing fireman Daniel Hanlon, on ladder, who couldn't grab her.

Firemen of 4 Cities Aid Injured Fireman

Captain Timothy S. Costello (N. Y. F. D.) and his wife, Mary, driving to California, were in a bad automobile accident in Superior, Ariz. Captain Costello lost his right leg; his wife was partially paralyzed.

Despite injuries, the Captain pleaded to be returned to New York City. With the help of ambulances and Fire Department surgeons at Chicago, Cleveland and Buffalo, who met Captain and his wife and gave treatments, they were brought safely to New York, where special crew of firemen and porters removed them on stretchers. As we go to press it is reported they are both in critical condition.

Sets Fatal Fire to Avoid Marrying Girl

Mrs. Hazel Gelwix and daughter, Helen, were killed by a fire and Catherine Gelwix, aged 20, was carried unconscious from burning home in Chambersburg (Pa.)—Ralph Hawk, 20-year old farm hand was arrested for setting the blaze. He confessed to the fire, because he *"didn't want to marry Catherine."*

Had no Business Inside Fire Lines—Lost Suit

Mary Hooper, 178 W. 81st St. (N. Y. City) sued the city for injuries caused by entanglement in a fire hose during a fire in the vicinity of her home. Justice John F. O'Neill ruled in the municipal court that the city was not liable for injuries caused by either firemen or policemen in the discharge of their duties. The court held virtually that citizens have no business inside fire lines.

Chief's Coupe Shocks Safety Car

Operator of a loud-speaker equipped safety car, sponsored by Springfield (Mass.) Safety Council, cruising streets of Chicopee was horrified to see a red coupe shoot past him at great rate of speed. *"Hey, there, you red coupe,"* blared forth the loud-speaker, *"Slow down at once."* Derisive wail of a siren was the answer, as the red coupe sped on. It was the Chicopee Fire Chief, responding to an alarm.

Note to contributors: If you do not read your news contribution in the next issue of FIRE ENGINEERING don't despair—if it's suitable it will ultimately find its way into print.

Editor, Watch Desk.

WHAT DO YOU KNOW?

The Editor of "The Watch Desk" welcomes contributions from readers of FIRE ENGINEERING that briefly give facts about interesting, odd things that have to do with fires, fire-fighting, etc. Address "Editor, Watch Desk."

DR. PRICE RECOMMENDS STEPS TO CUT DUST EXPLOSION RISKS FOR FIREMEN

Nineteen-Year Record Shows That 311 Persons Lost Their Lives from Such Explosions and Loss Was Over $35,000,000

DUST explosions have taken the lives of at least 311 persons in the last nineteen years is amazing news to most people. Accurate records kept during that period show that there were at least 385 dust explosions in connection with the milling, processing and handling of products largely of agricultural origin. In addition to the loss of life in these explosions, more than 693 workmen were injured and the property losses amounted to over $35,000,000, averaging about $90,000 for each explosion. These figures are a revelation to many and it is surprising to learn that dust explosions are possible in 28,000 industrial plants in the United States.

A number of disastrous explosions have occurred during fire-fighting operations. Sometimes these have taken place when firemen attempted to remove contents of bins or other enclosures that contained materials in powdered form. In other cases, the falling of a floor or the dropping of the bottom of storage bins forced a dust cloud on the fire. Again, a heavy-pressure stream of water striking a pile of powdered material has been known to throw the dust into the flames and bring about an explosion. Another possibility is the chemical reaction between the water and certain types of metallic dust.

Measures Recommended

David J. Price, engineer of the U. S. Bureau of Chemistry and Soils, recommends the following precautionary measures:

Instead of immediately removing the contents of bins in which a fire has occurred and apparently is extinguished, it is better to flood the bins and thoroughly drench the material before undertaking to remove the contents.

When wetting explosive dusts stored in piles, a spray is preferable to the heavy pressure from the hose.

Plants should be systematically inspected by firemen to acquaint them with any dust explosion hazards existing there. This would prevent the unnecessary exposure of firemen to dust explosions.

That a practical knowledge of dust explosion prevention is important to firemen is indicated by the number of dust explosions that have occurred during fire-fighting operations. Therefore, special attention should be given to the following recommendations:

Firemen in industrial centers where manufacturing operations are located should become thoroughly acquainted with the dust explosion prevention work of the U. S. Bureau of Chemistry and Soils. The publications of the Bureau should be studied carefully so that firemen may know what a dust explosion really is, the circumstances under which it can occur, and methods for preventing it.

Firemen should know about dust explosions that have occurred during fire-fighting operations. The danger involved in the use of a heavy-pressure stream of water in fighting fires in plants where combustible dusts are present should be fully recognized.

The danger in removing powdered materials from storage bins where fires have occurred, and the explosion hazard of nearby bins and enclosures containing combustible dust must be fully recognized.

The value of periodical inspection of industrial plants where combustible dusts are created during manufacturing operations assumes great importance when dust explosions of this character are considered. Systematic inspection enables firemen to become thoroughly familiar with structural features of the buildings and the hazardous manufacturing processes carried on in them, and gives them definite knowledge of the contents of the buildings and of any combustible products handled and manufactured. This knowledge is helpful in working out a plan of fire-fighting which will more adequately protect the firemen.

In view of the present upward trend in fire losses, as reported by the National Board of Fire Underwriters, these precautions and all others tending to bring about greater fire-safety are of the utmost importance. To firemen they may mean life or death.

Dominion Chiefs to Meet in August

The twenty-ninth annual convention of the Dominion Association of Fire Chiefs will be held in Oshawa, Ont., on August 24 to 26. If necessary, sessions will be held on August 27.

Chief Thomas Paveling, East York, Ont., is in charge of the exhibits and Chief W. R. Elliott, Oshawa, is in charge of the hotel accommodations. The Secretary of the association is Chief James Armstrong, Kingston, Ont.

Chief Breder Re-Elected

For the fifteenth consecutive term, Chief Henry W. Breder, Egg Harbor City, N. J., has been elected President of the Atlantic County Firemen's Association. He has been President ever since the organization was formed in 1922.

The other officers are Samuel Conver, Ocean City, Honorary President; Charles Miller, Margate, First Vice-President; Harry M. Phillips, Hammonton, Second Vice-President; B. Lehr Scull, Mays Landing, Secretary, and Edward M. Pennington, Absecon, Treasurer.

Johnstown to Have New Aerial

Johnstown, Pa., is expecting the delivery of a 100-foot aerial ladder to be delivered in the middle of May. The new unit will replace a 75-foot aerial ladder that was wrecked last spring.

Perseverance Wins

During the days when writing was taught as a fine art, the students copied a large assortment of mottoes such as "Perseverance wins its reward."

It seems as though the old copy book was right, for now after a twenty-year fight, Blanchardville, Wis., is to have a fire truck. For more than twenty years, fires were fought by hand equipment, and when the firemen were not fighting fires, they were fighting the Village Board trying to gain approval for the purchase of modern apparatus.

Enclosed Rescue Squad Car for Detroit, Mich.

An enclosed type of rescue car, mounted on a Ford V8 truck, has been added to the equipment of the Detroit Fire Department. The car carries hydraulic jacks for raising fallen beams, a life line gun and a life net. In one compartment are gas extinguishers and acetylene cutters for cutting through steel doors and beams. The unit also has gas masks, inhalator, pulmotor, oxygen, stretchers, splints and helmets, salvage covers, brooms, etc. Capt. Daniel L. Teahan, in charge of one of the rescue squads, is shown in the cab.

WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of January, 1937. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending January 31

	Loss in Thousands of Dollars
Oakland, Calif.—Franciscan Monastery destroyed	$ 60
Coburg, Ont.—St. Andrew's Presbyterian Church destroyed	125
Paincourt, Ont.—Church of Immaculate Conception destroyed	80
St. Paul, Minn.—Gopher Stamp & Die Co. plant destroyed	50
Cleveland, Ohio—Bldg. occupied by Ryan Provision Co.	50
Dormont, Pa.—Business and apartment building	70
Hague-on-Lake-George, N. Y.—Boathouse of Hall Boat Corp.	50
Massillon, Ohio—Storehouse of Enterprise Aluminum Co.	125
Petersburg, Va.—Plant of J. B. Worth Peanut Co. damaged	70
Syracuse, N. Y.—Lyman Hall at Syracuse University, damaged	325
Niles, Mich.—Plant of Garden City Fan Co., damaged	80
Midland, Pa.—Mill of Crucible Steel Co., destroyed	450
Painesville, Ohio—Plant of Light Alleys Co., destroyed	50
San Mateo, Calif.—Peninsular School destroyed	65
New Orleans, La.—Athenaeum, owned by Y. M. H. A.	80
Cunningham, Kan.—Skelly gasoline refinery damaged	50
Adrian, Mich.—Millwork plant of F. W. Prentice Co.	80
St. Louis, Mo.—Funsten Apartments damaged	80
Kezer Falls, Me.—Kezer Falls National Bank and adj. property	50
Altoona Pa.—Eight bldgs. in business section	625
Hoopeston, Ill.—Six buildings in business district	170
Aberdeen, S. Dak.—Alonzo Ward Hotel Annex damaged	65
San Francisco, Calif.—New Mission Market and adj. property	400
Hollywood, Calif.—Twentieth Century-Fox studio at Westwood	170
Roseville, Calif.—Whse. of Skeels & Graham Construction Co.	80
Stevens, S. Dak.—Nine planes and hanger of Hanford Airlines	60
Lexington, Tenn.—Plant of Munns Bros., damaged	65
Cincinnati, Ohio—Large area in packing house and industrial section	700
North Bay, Ont.—Queen's Hotel and adj. business property	250
Wadsworth, Ohio—Property of H. J. Hall Trucking Co.	60
St. Louis, Mo.—Dwelling of S. M. Shoenberg on Conway Rd.	55
Bridgeport, Ala.—Bank and apt. building damaged	170
San Francisco, Calif.—Wilson building damaged	200
Mount Kisco, N. Y.—Dwelling of H. J. Whitehouse	80
Chandler Ariz.—Plant of Pecos Valley Alfalfa Milling Co.	50
Morristown, Tenn.—Parks-Belk Department Store damaged	50
Grandmere, Que.—Business property owned by Adolphe Allard	50
San Francisco, Calif.—C. F. Kane & Co. garage and City Junk Co.	50
Hicksville, L. I., N. Y.—Business property 76 to 90 Broadway	80
Victor, N. Y.—Victor Flour Mills, Inc., destroyed	250
Eau Claire, Wis.—City's central pumping station at Dells Dam	80
New Cumberland, W. Va.—Plant of Duraloy Foundry destroyed	125
Chattanooga, Tenn.—Furniture store damaged	50
Los Angeles, Calif.—Apartment bldg. at 3783 W. 9th St.	50
Vancouver, B. C.—Plant of Canadian White Pine Co.	200
Newberry, Mich.—Plant of Robbins Flooring Co.	400

Pension System for City Employees

Kenneth H. Damren, of the Division of Accounts at the State House in Boston, spoke on "The New Contributory Pension System for Municipal Employees" at the meeting of the Fire Chiefs' Club of Massachusetts which was held in the Parker House in Boston on January 20. Chief Charles L. McCarthy, Worcester, presided.

Ex-Chief John C. Moran, of the Hartford, Conn., Fire Department, who recently retired on pension, was elected a Life Member of the club.

Chief William C. Mahoney, Peabody, reported that civil service bills have been introduced in the state legislature affecting Fire Departments in Cambridge, Ware, Chicopee, and Plymouth.

The deaths were reported of Charles W. Mowry, of the Associated Factory Mutual Fire Insurance Companies, an Honorary Member; and of Chief John H. Neary, Natick, Mass., a former member of the club.

The following Chiefs took part in discussion of provisions of the new pension law: Chief Daniel B. Tierney, Arlington, First Vice-President, International Association of Fire Chiefs; Chief Patrick J. Hurley, Holyoke, Past-President, New England Association of Fire Chiefs; Chief Michael J. Shea, Fitchburg; and Chief Frederick H. Pye, Stoughton.

HARRY BELKNAP.

Firemen Have 6-Hour Fight

With the mercury below freezing and a strong northwest wind blowing, firemen battled for six hours against flames that wiped out the entire contents and interior of a four-story brick building on Main Street, in the heart of the business district of Ansonia, Conn., on February 3. Damage was estimated at $175,000 and was the biggest loss suffered in this town in many years. Twelve firemen were taken to Griffin Hospital at nearby Derby, but only four were seriously injured.

Firemen were called from Seymour, Derby, Naugatuck, and Chief Lawrence E. Reif of the New Haven department dispatched a ladder truck and pumper to aid the Ansonia department in combatting the flames.

The collapse of the roof showered the vicinity with sparks and burning brands. The Ansonia Opera House, adjoining the Terry Building, was saved from destruction through the efforts of Chief James L. Brett and his volunteer company.

Fire was discovered by a passerby at 8:50 p. m. The box alarm brought three companies to the scene and when Chief Brett arrived, he immediately ordered a second and third alarm turned in.

This alarm sent all available apparatus to the fire and the firemen attacked the flames from four sides and from vantage points on nearby roof tops. Twenty-four hoselines were played on the burning structure during the height of the fire.

The fire is believed to have started on the ground floor in the rear of a hardware store.

THOMAS F. MAGNER.

Illinois Firemen to Celebrate Golden Anniversary

The next convention of the Illinois Firemen's Association will be its Golden Jubilee, constituting the 50th anniversary of the organization. This will take place on October 5 to 7 at Danville, Ill.

The Chief Says

By John E. Beckham

A man in uniform is conspicuous, either favorably or unfavorably.

* * *

A good fireman is always self-made—with the help of the rest of the department.

* * *

Be patient with the public. They don't know your problems.

* * *

About four life-times would be needed to learn it all, but keep trying anyway.

* * *

Discipline is the system by which we make an organization out of a mob.

* * *

Initiative is the quality that marks you as the man "coming up."

* * *

The kids will remember you long after you have forgotten them. Will you be glad or sorry?

Court House Destroyed

The Troup County court house at LaGrange, Ill., was destroyed by fire believed to be of incendiary origin. The Superior Court was in session at the time. A negro woman and a public health nurse were badly injured when they leaped from a second story window.

BROWDER LIFE NETS

You want a MODERN life net built by men with years of experience in knowing what constitutes a good net. We have been building BROWDER NETS for years. The latest type net we build is replacing some of our old ones that have been in service for years. See a BROWDER before buying any other life net.

The Most Popular Life Nets in America

Specify BROWDER Life Nets on all your new trucks. Your neighbor uses them. Your favorite dealer sells them.

For information ask your dealer or write direct.

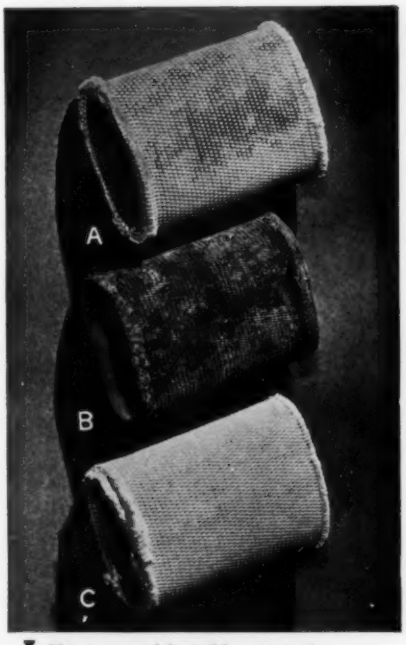
We are the Sole Makers of BROWDER NETS.

CORY-PATTERSON MFG. CO., Greenfield, Ohio

NO SIGN OF MILDEW
AFTER BEING
PROVAR PROCESSED

★ Saturated with water and exposed for six months to warm, moist atmosphere, Republic PROVAR PROCESSED Fire Hose showed no signs of mildew, no discoloration, no loss of strength or quality. The PROVAR PROCESS is an exclusive method of treating fire hose for mildew protection—far superior to any previous effort by any other manufacturer.

The PROVAR PROCESS is permanent—will not wash out. It means longer life to your hose, greater economy, greater safety, and—the price is the same as regular hose!



A Not processed for mildew protection.
B Processed for mildew protection by a competitor.
C PROVAR PROCESSED Republic Fire Hose —no sign of mildew.

• • •

Unretouched photo showing results after samples were saturated with water and exposed to moist atmosphere for six months.

THE REPUBLIC RUBBER CO.
YOUNGSTOWN, OHIO

Republic **FIRE HOSE**

1" for Booster Line with 1/4" or 3/8" tip
$20

for 1½" Leader Line 3/8", 5/8" or 1/2" tip
$25

for 2½" Play Pipe 3/4", 7/8" or 1⅛" tip
$35

The "Triple Threat" Vapor-Stream-Shut-Off NOZZLE

A three-way combination nozzle which is being accorded enthusiastic acceptance wherever it is shown and demonstrated. It has everything in one single compact unit . . . straight stream . . . heavy drenching . . . fire smothering vapor . . . and shut-off.

With the TRIPLE THREAT you can choose your own method of attack INSTANTLY . . . no shifting of tips or nozzles . . . no heavy destructive stream when vapor will do. With it you can prevent large water damage.

Vapor position consumes only about one-quarter to one-third as much as the full straight stream. Vapor produced is very fine and effective in pushing back and smothering fires in gas . . . oil . . . tar, etc. Marvelous for basement and attic fires . . . vapor will drive out smoke and fire with a minimum of water. All bronze construction—nickel plated. NO SCREENS TO CLOG. Equipped with any regular size tip as desired.

Complete information from

W. S. NOTT COMPANY
2nd Avenue North and 3rd Street
MINNEAPOLIS MINN.

ATLAS

AND—*there's as much difference between a modern net and an old one as there is between a modern pumper and an old steamer.*

IS THE ONLY MODERN LIFE NET

Take a look at the life nets you are carrying. You've probably had them on your trucks for 25 years or more. They are likely as out-of-date as an old steamer. We have made important changes in ATLAS NETS. 32 new shock absorbers mean no broken wrists, torn ligaments or snapped necks. Frames are lighter and stronger, of Molybdenum.

Six men are all that is needed to hold an ATLAS. These new nets fold in half for aerials or in quarters for pumpers. New York and other important fire departments are using a lot of them. In order to be up on your stuff you should see an ATLAS NET or at least have complete details on them. Your request in either case will be quickly handled.

DEALERS
Here is something new. Any progressive chief will certainly want to see and buy them. Write us for proposition.

ATLAS FIRE EQUIPMENT CO.
22 WARREN STREET NEW YORK, N. Y.

Chief J. F. Sullivan to Retire

Chief Jeremiah F. Sullivan, Fall River, Mass., Fire Department has asked for retirement on pension.

Chief Sullivan joined the Fall River department as a call man in 1887. In

Chief Jeremiah Sullivan

June, 1901, he was appointed a permanent firemen and assigned by Chief William Davol to Hook and Ladder 3 in the northern section of the city. He was transferred to Hose 2 in October, 1901, and has the distinction of remaining in one division ever since.

He was made a lieutenant under the first fire board that functioned in 1903. He was assigned to the Chief's office as aide to Chief Davol in 1907 and in 1909 was made a captain.

In 1920 he was made Deputy Chief and at intervals filled the position of Acting Chief during Chief Joseph Bower's illness.

Upon Chief Bower's death Deputy Chief Sullivan assumed command of the department and later was made Chief.

He is one of the best known fire officials in the East and is a past-President of the Massachusetts State Firemen's Association. He is a member of the Fire Chiefs' Club of Massachusetts, the New England Association of Fire Chiefs, and the International Association of Fire Chiefs.

Middlesex Fire Wardens Meet

Chief William C. Mahoney, Peabody, Mass., presided at the meeting of the Middlesex County Forest Fire Wardens' Association, which was held on the evening of January 21, in the Calumet Club, in Winchester.

The speakers were John J. Sheehan, Trustee of the Lyman School for Boys; Charles A. DuBois, Superintendent of the school, and Charles Hayes, of the National Park Service, who showed a new sound film of the U. S. Forest Service. HARRY BELKNAP.

Ft. Peck Has Low Losses

The results which can be achieved by persistent efforts to prevent fires in a community of 3,400 to 7,700 population is well exemplified by the record of the Fire Department at the great dam construction project on the Missouri River. Fire losses to Government buildings in the town of Fort Peck for the year 1936 were only $2.52. Losses for 1935 were $15 in the same area. Losses to private property during 1936 amounted to $132, most of which was in parked automobiles from fires caused by lighted cigarettes.

Only one fire did damage to the framework of a Government building during the year. This was in a bathhouse, where carelessness of some boys resulted in slight damage to a partition wall.

There are over 600 buildings in the townsite and adjacent floodplain of the river, only 13 of which are of permanent type construction. The remaining buildings are of temporary wood-frame construction. During summer, at the peak of activities the population is 7,700. Natural gas is used for heating, cooking and water heating.

The record was achieved by continuous efforts of the Fire Department to eliminate fire hazards and to instill a vigilant attitude in the minds of the townspeople. Fire prevention measures by the department personnel included inspections and drills. All residences, barracks, garages, industrial and business center buildings were visited periodically and inspected for conditions known to be conducive to fires, and to take positive steps to have them eliminated. Waiters, janitors, guards, warehousemen, hospital employees, foremen, school children, housewives, Boy Scouts and volunteer firemen were drilled in the proper procedure in case of fires. Many formal and informal lectures were given during the year to groups of employees or residents in the town. The proper use of various types of hand extinguishers, placed at hundreds of points about the town buildings, was demonstrated.

All small extinguisher equipment was inspected at frequent intervals and kept filled with chemicals in active condition. Fire hoses were given particular attention and replacements were made of worn or unserviceable hose.

Towns in the vicinity of Fort Peck were less fortunate as to fire losses, largely because of lack of water supply systems and modern fire-fighting equipment. During the year, the Fort Peck department responded to 26 calls from neighboring towns, having a combined population on November 15, 1936, estimated at 12,000 persons.

In a thickly populated community housed in wood-frame buildings, fires can only be prevented by unremitting care and vigilance on the part of a majority of the residents. Efforts of the Fire Captain and his men to elicit the desired cooperation from the people of Fort Peck have been successful, as the record shows. Project employees and housewives have willingly given their attention to practical demonstrations of the use of small extinguishers placed in every house and to helpful suggestions from the firemen as to storing of personal effects and the disposal of refuse.

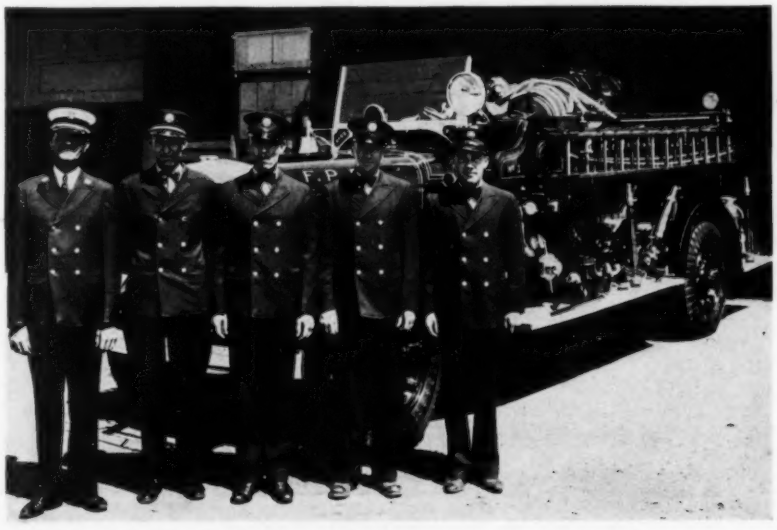
Chief Harrison, Brunswick, Retired

J. H. Harrison, head of the Fire Department at Brunswick, Ga., retired on pension on January 1. For fifty-one years he has been in active, continuous service, and he has served as Chief for twenty-seven years.

Two New Fire Stations

George Ernest Robinson, Boston architect, who specializes in the designing of fire stations and school houses, is preparing plans for a new central fire station to be built at Quincy, Mass., and for a single door fire station for East Fairhaven, Mass. Both buildings are to be constructed as PWA projects.

HARRY BELKNAP.



The Fort Peck Fire Department of the Army Engineers
At the left is Chief Harry Ishum, formerly District Fire Chief and Drillmaster, Kansas City, Mo.

Training Schools for Maine

Establishment of firemen's training schools on a permanent and state-wide basis was strongly urged by speakers at the meeting of the State Association of Fire Chiefs of Maine, which was held in Augusta on January 12.

Seventy-two members attended the sessions. The morning meeting was held in the Hartford Station of the Augusta Fire Department. Chief Allen F. Payson, of Camden, presided. Mayor Frederick G. Payne, of Augusta, delivered an address of welcome, and Chief Grover Lovejoy, Waterville, replied in behalf of the association.

Wilfred D. Spencer, Maine Insurance Commissioner, was the principal speaker of the morning. He said that investigation of fires and fire causes has helped to cut down losses. He declared that there should be no political interference with Chiefs. He gave an interesting talk about his various experiences while serving as Insurance Commissioner.

Austin H. Wilkins, of the Maine Forest Service, spoke on "Forest Fire Problems of Maine." He said that there are 16,000,000 acres of timber in the state that have to be protected from fires. He said great care should be exercised in granting permits for brush burning. He described the work of the Maine Forest Service and said there are now 96 steel fire lookout towers, strategically located and that an airplane is used for patrol work.

Cigarettes, locomotives, portable saw mills, careless campers, and lightning were among the causes of forest fires. Some of the large woods fires of past years were described by the speaker.

Luncheon was served at 1 o'clock in the Hotel North. After this a demonstration was given in a vacant lot near the railroad track of Hanks' "K. O. Powder," a chemical fire extinguishing powder. The Chiefs visited the state capitol in the afternoon.

There was a banquet in the evening at the Hotel North, followed by a round table discussion of plans for organization of firemen's training classes. Governor Lewis O. Barrows was a speaker at the banquet.

Chief Joseph W. Randlett, of Richmond, First Vice-President, New England Association of Fire Chiefs, opened the discussion of the training schools and told of the success of the classes for firemen that were held in 1935. These schools were held in Portland, Lewiston, and Bangor. No schools were held in 1936.

S. D. Patrick, Maine Department of Education, indorsed the plan for re-establishing the schools and promised his co-operation. Among those who spoke in favor of the training classes for firemen were Chief Charles O. Spear, Jr., South Portland; Chief Walter Hellenbran, Oldtown; Chief Irving Doyle, Brewer; Chief Alden, Gorham; Chief Smith, Freeport; Chief Frank LeMar, Gardiner; Chief Butler, Berwick; Chief Brown, Bridgeton; Chief Rainey, Westbrook; Chief Herman, S. D. Warren Company, Westbrook; Chief Joseph McCosky, Bangor; Chief Oliver T. Sanborn, Portland; Chief George R. McCurdy, Augusta; Chief Solomon A. Mercier, Rumford; and Chief Trecarten, Lubec.

It was voted to hold the April meeting of the association in Lewiston, upon invitation of Chief Reuben Estes.

HARRY BELKNAP.

Chief Slaughter, Paducah, Dead

From the flood-swept city of Paducah, Ky., comes news of the death of Chief John M. Slaughter, as the result of injuries received while fighting a fire.

He and six members of the department were hurt when a wall, which was weakened by an explosion, crashed and trapped the men. The Chief was the only one of the group who was seriously injured. Chief Slaughter died one week later, as the result of the injuries.

Assist. Chief Beckman Retires

Clem Beckman, for more than twenty years Assistant Chief of the Cincinnati, Ohio, Fire Department, and a member for nearly forty-six years, was given

Asst. Chief Clem Beckman

the title of Assistant Chief Emeritus by the City Council.

He is seventy-two years old, and a man of good physical power and energy. During his days in the department, he penetrated the densest smoke without carrying a lantern. He seldom raised his voice when giving commands at a fire.

A story is told that a reporter asked him for a story. He told the newspaper man, "Follow me and you'll get the story."

A bystander remarked to the reporter, "If you're able to follow, you're liable not to write it."

Chief Beckman, during the '90s, was a member of Famous Company Tens, one of the fastest companies of the middle west. LARRY T. DONOVAN.

The English Method of Carrying Large Amounts of Hose

A special hose wagon or lorry has just been placed in service by the London, England, Fire Brigade. The arrangements are such that the hose can be laid out either in a single line or in two lines simultaneously. All lengths of hose are coupled together for the laying of long single lines. The hose comes in 100-foot lengths. Sufficient hose is carried to lay lines about 1½-mile long, and the equipment, it is said, will be very valuable in areas where there may be a shortage of water. The apparatus was demonstrated at the Southwark headquarters.

Benjamin Franklin as a Fire Preventionist

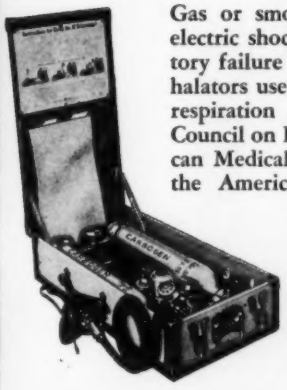
William Franklin, a fire alarm consultant, of Stamford, Conn., and Captain Charles Speh, also of Stamford, were the speakers at the January meeting of the Fairfield County Fire Chiefs' Emergency Plan, held at the Springdale firehouse on Wednesday evening, January 27.

Mr. Franklin discussed the Union Fire Department, of Philadelphia, which was the first volunteer Fire Department in the country, which was organized in 1736, with Benjamin Franklin (no relation, as he explained later) as one of the five charter members. The foresight of Benjamin Franklin in the planned fire preventive measures which he suggested to reduce fire losses, such as tile roofs, etc., was discussed by the speaker, as well as the equipment of the earlier companies of six buckets and four bags, which each man had to bring to the fire, the buckets for extinguishing the fire and the bags containing burlap and other available material for salvage work.

"Bundling," a practice of earlier days, was brought on by the laws passed to prevent fires at night, a curfew when

(Photograph courtesy of International Newsreel)

Headline Cases.. H-H Inhalators on the job Saving Lives



Gas or smoke asphyxiations, drownings, electric shock cases,—*all forms* of respiratory failure are best treated with H-H Inhalators used in conjunction with artificial respiration . . . *officially accepted* by the Council on Physical Therapy of the American Medical Association . . . *approved* by the American Gas Association and the Association of Police and Fire Surgeons . . . *used* literally everywhere. If your men are exposed to hazards of this type, send for Bulletin CA-1, or better still, let us arrange a practical demonstration of the H-H Inhalator for you.

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M. S. A. Products include Breathing Apparatus . . . Inhalators . . . Masks of all Types . . . Gas Indicators . . . Gas Detectors . . . M. S. A. Safety Goggles . . . M. S. A. Protective Hats and Caps . . . Edison Electric Cap Lamps . . . Safety Clothing . . . First Aid Equipment . . . Submarine Escape Apparatus. Descriptive Bulletins will be sent on request.

Flash

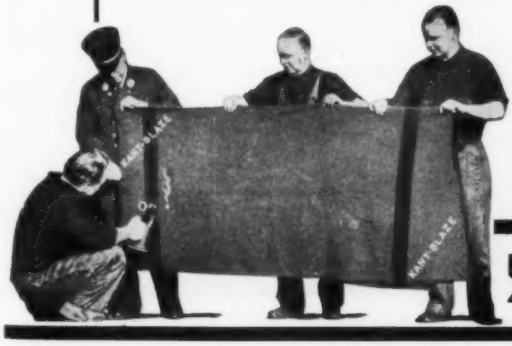
Many a Life Has Been Saved With the Timely Use of a—

KANT-BLAZE FIRE BLANKET

EITHER metal box or knapsack **$15**

The greatest life and property saver added to Fire Dept. equipment during the past twenty years. Institutions of all kinds should be supplied with Kant-Blaze Blankets. Used once, will quickly prove their worth in smothering fires, protecting victims of burns, and in many other ways that will amaze you. Ask your dealer or write us for further information. Their long life, their low cost, and multiple uses will convince you of their tremendous value. Chiefs everywhere unhesitatingly and highly endorse them.

ASK YOUR DEALER



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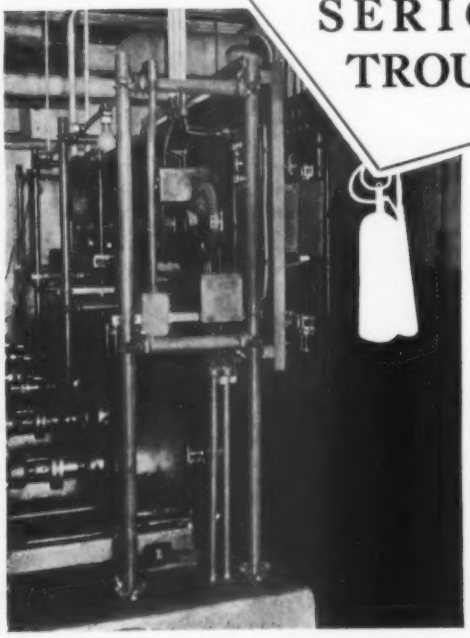
434 Union Street Lynn, Mass.

This empty space means SERIOUS TROUBLE



Power room in a communication company's control office.

THERE's a fellow (a very nice guy, incidentally) who is one of your worst enemies. He buys extinguishers in dozen lots and hangs them all over his factory.

Maybe he never knew that most extinguishers are helpless against certain types of fire. Maybe he never stopped to think that each of his extinguishers *is supposed to guard the special fire hazard near which it hangs.* The wrong extinguisher is worse than none.

So—in your inspection work—watch electrical hazards carefully. And LOOK FOR LUX.

Here is why LUX should be selected for any electrical hazard.

- LUX carbon-dioxide snow-and-gas is a *non-conductor,* and therefore is safe on electrical equipment.
- The fast-expanding action of LUX drives deep into hidden wiring. It penetrates straight to the heart of the fire—instantly.
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- The *fastest* known extinguishing agent is LUX snow-and-gas.
- LUX will not deteriorate with age nor freeze at any climatic temperature. It is therefore always in condition for instant use.

If you wish any information about LUX extinguishers, we invite your letters.

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Made of VANITEX, a waterproof, durable, pliable material, manufactured exclusively for MIDWESTERN. It is acid proof, soft and flexible. There is no better LOOKING or longer WEARING coat made! And the MIDWESTERN is the ONLY firemen's coat equipped with the FAMOUS SAFETY SNAP that can be fastened or unfastened with one hand in a jiffy. The FAMOUS SAFETY SNAP will not catch on clothing.

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Look for the double eagle label on the coat you buy.

Write for our Free Illustrated Catalog showing complete line of our rubber and canvas garments. Satisfaction Guaranteed.

MIDWESTERN
The World's Finest!
FIREMEN'S COAT
See one before you buy any other!

Midwestern Manufacturing Company
MACKINAW, ILLINOIS
Manufacturers of a Complete Line of Quality Firemen's Clothing

Reduce WATER DAMAGE & INSURANCE RATES

With Shuredry SALVAGE COVERS

BETTER YOUR RECORD

In every city where Shuredry Salvage Covers are a part of regular equipment taxpayers have benefited.

Three-fourths of all fire losses are directly chargeable to water damage. Reduce this hazard and better your record. Specify Shuredry Salvage Covers. Drill your men in their use.

Write to our nearest plant for full information and prices.

Fulton Bag & Cotton Mills
Manufacturers Since 1870
ATLANTA ST. LOUIS DALLAS
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all fires had to be put out, resulting in the guests at parties "bundling" to protect themselves from the cold. Later Franklin invented the "Franklin" stove, which allowed more liberal laws in regard to fires. Mr. Franklin also discussed the evolution of the fire alarm systems, which have been modernized completely since the first box was installed in downtown Boston in 1852 and the earlier experiment in Berlin in 1851 to the present day systems.

Captain Speh, of the Stamford Fire Department, explained the procedure that their paid department follows in inspecting dwellings, apartment houses, stores and public buildings, oil burners, range burners, etc. He described how essential it is for their men to know the layout of their buildings, which they obtain while inspecting the premises. All permits for oil burners are given out by the Fire Department officers.

Before the opening of the meeting, the members present, which numbered 125, stood in silence for one minute in memory of Chief Bailey, of Bethel, who passed away the week before.

Short talks were given by Conrad Lund and Chief Daniel Knickerbocker, President and Chief of the Springdale department, respectively. Chief Knickerbocker has been Chief of his company for 21 consecutive years.

By a unanimous vote the Plan voted to donate $50 to the American Red Cross for flood relief purposes.

The next meeting of the Plan will be at the Fairfield Center Headquarters in Fairfield, Conn., on Wednesday evening, February 24.

The meeting was presided over by Chief Sydney Stapley, President, of Nichols.

1936 Losses High

Fire loss figures of the United States for 1936 were 13.2 per cent higher than those for 1935, and the largest since 1933, according to figures compiled by the National Board of Fire Underwriters.

Total fire losses for the past six years are as follows:

1931	$452,017,026
1932	442,143,311
1933	316,897,733
1934	275,652,060
1935	259,159,945
1936	293,357,245

The December fire losses were $30,133,628, or eight per cent higher than those for December, 1935.

Fire Apparatus Builder Killed

William G. Hahn, President of Hahn Motors, Inc., builders of trucks and fire apparatus at Allentown, Pa., was killed in a highway accident near Fogelsville. He was sixty years old.

Mr. Hahn drove in his car daily between the borough of Hamburg where he lived, to Allentown where the plant is located. It is believed that in riding on an ice-covered hill, his car skidded and swerved into the path of a truck that was coming down the hill.

In addition to his interests in the fire field, he served as President of the National Bank of Hamburg, since the bank was formed in 1934.

New Salvage Car for Chicago

Just how far salvage patrols have progressed may be judged by the comparison of the two photographs of equipment supplied by Chief McAuliffe of the Chicago Fire Insurance Patrol. The upper one is the fire motorized fire insurance patrol in service in Chicago and is of the vintage of 1909.

The new sedan type car (lower photograph) has room for forty-four covers and a large amount of equipment. Six men can ride comfortably in the car. The rear of the truck is closed by means of a metal roller curtain.

In addition to the covers, the car carries a short wave radio, tannic acid kit, first aid kit, Arntzen stretcher, electric light, with three hundred feet of extension cord, foam extinguisher, CO_2 extinguisher, hand water pump, Presto gas light, and the usual salvage company tools.

Chief McAuliffe states:

"While we have no idea of taking over any of the duties or obligations of the ambulance service, we feel that it will be a valuable addition and help to the Fire Department, and will provide facilities for taking care of our own men in emergencies."

Eight cars of this type will be built for Chicago.

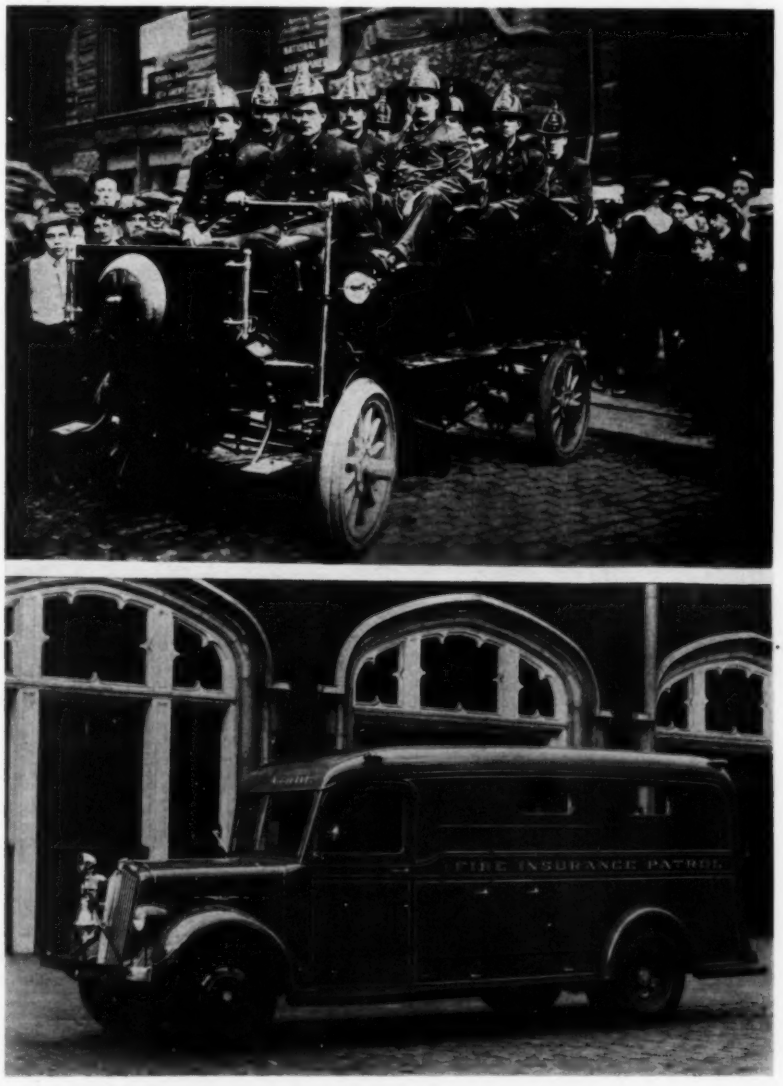
Ex-Chief Monroe Recalled

John H. Monroe, former Chief of Fire Department, Savannah, Ga., has been recalled as head of the department by the Mayor and City Council. He replaces Walter S. Blanton who is now First Battalion Chief.

D. G. Aid

Michigan Firemen Meet in July

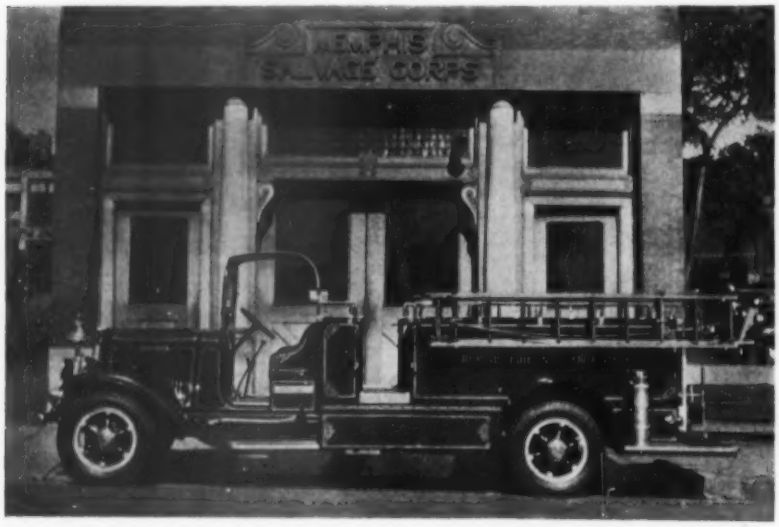
Ludington was chosen as the convention city for 1937 gathering of the Michigan Firemen's Association, and the dates as July 12 to 15. A fire school will be held in connection with the meeting with instructors from the Detroit and Chicago fire departments.



Chicago Fire Patrol Contrasts the Old With the New

Memphis Has New Salvage Car

A new salvage car has been added to the fire insurance patrol of Memphis, Tenn. It is mounted on a 1½-ton International chassis. The body was built by the patrol. The car has a capacity for fifty tarpaulins, space for brooms, tools, etc.



New Memphis Salvage Car in Front of Its Station

It also carries a pump that is operated from house current. The pumps have a capacity of 75 g.p.d., which is used for pumping out cellars and similar duties. A large siphon is used for pumping out basements in the business district.

Southern California Chiefs Meet

The twenty-first semi-annual convention of the Southern California Fire Chiefs' Club was held at Santa Ana, Cal., on January 16 with more than 140 persons attending.

Chief Dave Glines, South Gate, was elected President; John Luximbourger, Santa Ana, Vice-President; Arthur Langfors, Glendale, Secretary-Treasurer.

West Harwich Wants Protection

Residents of West Harwich, Mass., have signed a petition asking for a new fire house and new motor pumping engine for the Fire Department. The central station in Harwich is more than three miles from West Harwich and the people in the latter section claim that added protection would lead to reduced insurance rates.

HARRY BELKNAP.

Pirsch Makes Deliveries

A number of deliveries of Pirsch apparatus were made in New Jersey. The sales were made through the New Jersey Fire Equipment Company, Dunellen, N. J.

A 500-gallon triple combination pumper was delivered to Lakehurst; 500-gallon triple combination to Port Norris; 500-gallon triple combination to the Borough of Spotswood; 500-gallon triple combination to New Egypt.

A quadruple combination is to be delivered to Barrington this month. Monmouth Junction and North Brunswick have placed orders for pumpers to be delivered the latter part of April.

Driver Dies on Way to Fire

Lieut. Roland Tripp, thirty-seven years old, of the Newport, Vt., department, died at the wheel while enroute to a fire. Before the heavy truck came to a stop it broke down an electric light power pole and collided with an automobile parked at the curb. The driver died before medical aid arrived. It is believed that death was caused by a heart attack, or as a result of the accident. There were no other men on the apparatus and very little damage was done to the truck. The truck continued to the fire with another driver.

Farmers May Lose Apparatus

Farmer patrons of the community Fire Department of Urbana, Ohio, may lose their fire apparatus. An Anderson, Ind., bank is trying to collect $2,049 due on the apparatus purchased six years ago when the department was organized. If the bill is not paid, the apparatus will be claimed by the bank.

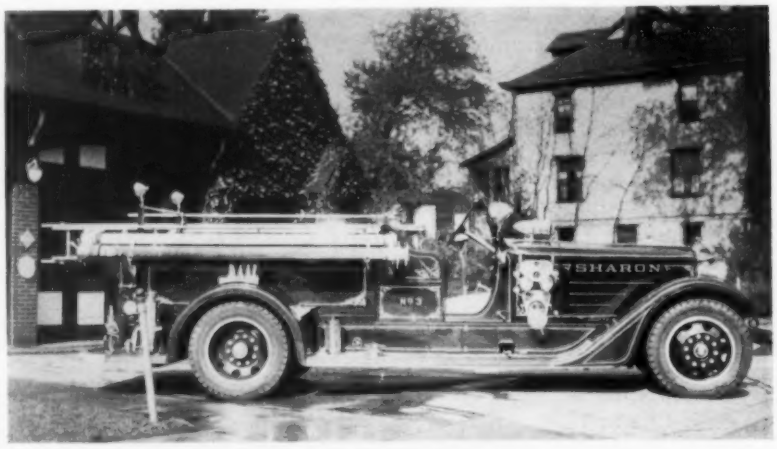
Chance of Fire Loss Greater in Country Than City

The chances are about 15 to 1 in favor of saving city property over rural property in case of fire because the thickly settled areas have better fire fighting facilities. Dr. David J. Price, fire and explosion specialist of the Bureau of Chemistry and Soils, emphasized this point to fire department instructors in their annual Southern Conference at Memphis, Tenn.

Dr. Price cited a report released recently by the Indiana Fire Marshal which showed that the loss from rural fires for the year ending May 31, 1936, was 74 per cent of all property involved as compared to a loss ratio of 5.2 per cent of city property damaged by fires during the same period.

Reports from most of the other states are not so definite, Dr. Price said, although he expressed an opinion that the 15 to 1 odds holds true in the farm and city fire losses. Some of the states, California in particular, have organized rural fire fighting to the extent that fire insurance companies have made reductions in their fire insurance rates for more than sixty protected rural fire districts.

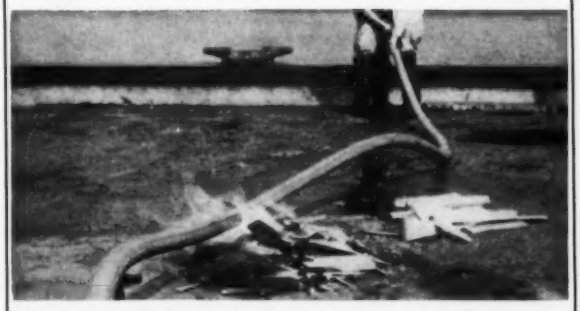
Attention was called to recommendations designed to lower farm fire losses. These recommendations provide for: (1) a telephone on the farm by which a fire alarm may be sent immediately to a central operator; (2) a rural fire department in the community, organized and equipped in accordance with the recommendations of the National Fire Protection Association; (3) an adequate supply of water on each farm for fire department use.



Sharon, Pa., Has New Truck

The Sharon, Pa., Fire Department has a new truck, which was delivered late last fall. It is one of the new American-LaFrance machines, with pump mounted under the cowl. Fire station Number Two, to which the apparatus is assigned, is in a residential district, and the architecture of the building is in keeping with the neighborhood. In fact, it is recognized as one of the beauty spots of the community.

IT WON'T BURN



LIN-LINED FIRE HOSE
Protects Itself From Fire!

LIN-LINED HOSE when fully charged and placed over a fire cannot burn because heat slightly expands the fibre and allows sufficient seepage to permeate through, thereby keeping the jacket cool. As soon as the hose is removed from the heat the fibres assume their former position, again giving you a water tight hose. Part of our demonstration calls for laying the charged line on a hot fire. Blow torch tests prove that ordinary hose at 100 lbs. pressure burst after 30 seconds while LIN-LINED wouldn't show a scar even after 10 minutes. It is also more compact, lighter, will not rot and is as strong as any fire hose you've ever used.

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DEALERS WANTED

AMERICAN FIRE HOSE CO.
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Floods are here. More on the way. Be ready for them with a Homelite 3" portable pump. For there's nothing like a Homelite for emergency pump-outs.

It's so light a man can carry it easily—gets it places other pumps can't reach. Weighing only 93 pounds complete with built-in gasoline engine—the unit pumps 15,000 gallons per hour—automatically—without manual attention and it is self-priming on suction lifts up to 28 ft. You can rush it about quickly—put it on a job and leave your trucks free for other calls.

Moreover, you can always depend on a Homelite. It starts instantly — and stands up—in the toughest weather. Air-cooled engine won't flood, freeze, or overheat. Thousands of these low cost units are in service.

Send for bulletin.

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902 RIVERDALE AVENUE - - - PORT CHESTER, N. Y.

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FIRE PUMPS
CENTRIFUGAL TYPE
FRONT-MOUNTED

Barton Fire Pumps are recognized the world over as the best and most economical answer to the majority of fire protection problems.

Unlike rotary and piston types, a modern Barton Centrifugal Pump has NO PARTS SUBJECT TO DAMAGE OR EXCESSIVE WEAR when pumping the dirtiest water.

Thus with a Barton you are not limited to pumping from city hydrants. In fact, every day Barton Pumps—automatically primed—are called upon to fight country and suburban fires, delivering huge volumes of water at smashing pressures from ponds, cisterns, rivers, etc.

Any Barton Fire Pump can be completely installed on a standard truck WITHOUT A SINGLE CHASSIS CHANGE. A good mechanic can do the entire mounting job in a few hours—entire expense but a few dollars.

New Edition (No. 4) of Bulletin 75
Contains Valuable Fire Stream Data

Write for your copy today! Learn about these wonderful Barton Pumps—how you can effect BIG SAVINGS and still have the finest fire pumping equipment—UNDERWRITERS' TESTED! Also our copyrighted Fire Stream Data in Bulletin 75 will be found very useful.

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BATTLE CREEK, MICHIGAN
PUMPS AND PUMPS ONLY SINCE 1873

AFTER all, a good badge is a sensible investment. Not everyone can wear a fireman's emblem of service. You men who have devoted your lives to saving life and property should be proud of your badge.

You will be if you wear a BRAXMAR BADGE. Over fifty-five years of experience goes into every badge you buy.

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Standard for Over Fifty Years

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Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

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You'll Feel
A HEAP SAFER
with
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Practical Pocket
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$24 Dozen
Sample: $2. postpaid

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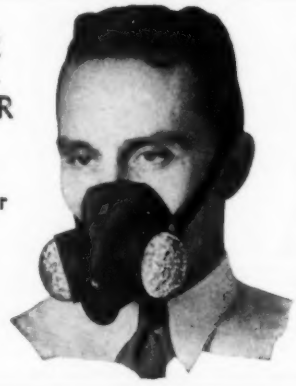
Station A
South Bend, Indiana



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COMFORTABLE AS YOUR OLD FELT HAT; WON'T SHAKE OFF

Never go to a fire without the protection of a good helmet. It may save your life.

DESIGN - - MATERIALS - - CONSTRUCTION
ALL PROVED RIGHT BY YEARS OF ACTUAL USE

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CRACKERJACK FIRE HOSE

The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD OF THE WEST for over 25 years.

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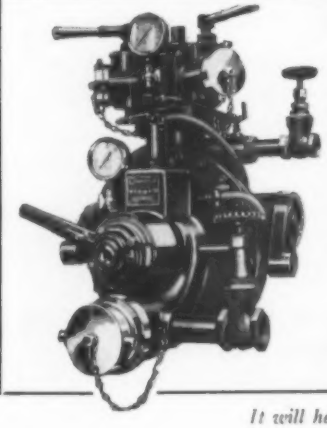

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Manufacturers' Announcements

Safety Light

An illustrated folder has been issued by Inertia Devices, 370 Broadway, New York City, to describe a new type of flashlight which is gas and water tight. It has a control device which will not spark. The switch for the light is sealed like a battery cell and is enclosed within the flashlight case. By flicking the light, with a snap of the wrist, the light is turned on. By flicking the light again, the inertia switch shuts off current. The light is said to be absolutely safe amid explosive gas mixtures.

Hose Record Cards

For departments that maintain a history of individual lengths of fire hose, the Eureka Fire Hose Division of U. S. Rubber Products, has printed for free distribution, the hose record card illustrated. The cards aid in maintaining true histories of each length of hose.

Schwalbach Purchasing Agent

Joseph Schwalbach has been promoted to Purchasing Agent by the Buffalo Fire Appliance Corporation, Buffalo, N. Y. He succeeds Mr. Roetzer who had to give up the work because of ill health.

Fink Heads Mack Truck

E. C. Fink, formerly Vice-President of Mack Trucks, Inc., has been elected President and Chairman of the Board to succeed the late Charles Hayden.

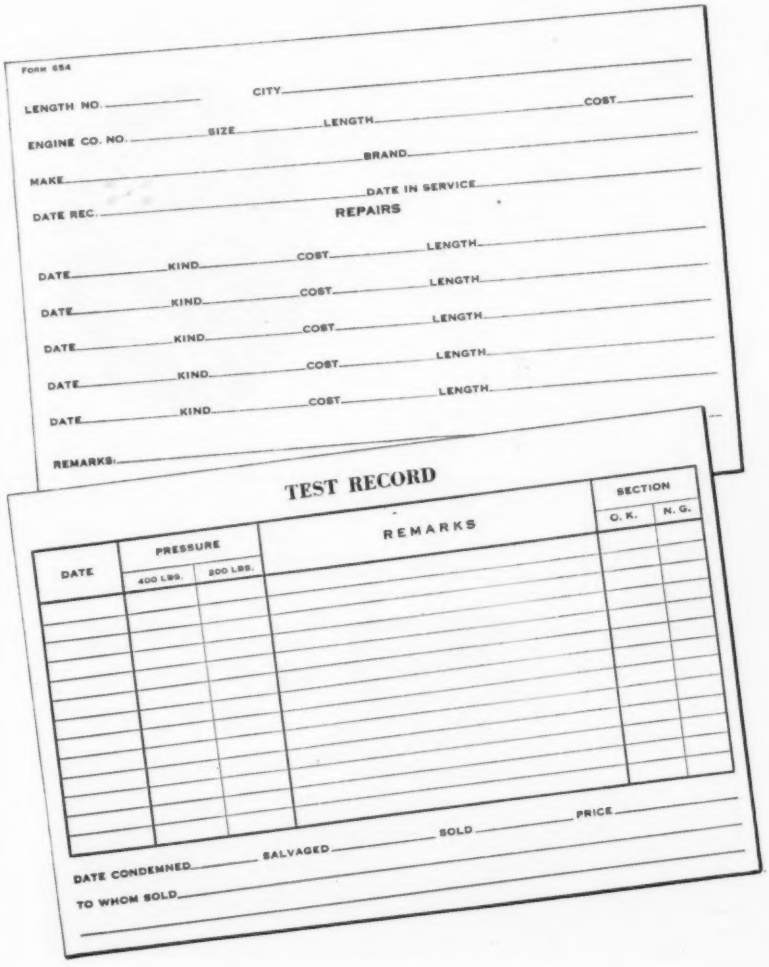
Barker Turbulence Eliminator

The Barker turbulence eliminator, designed by Horace Barker, Springfield, Mass., is being manufactured by Samuel Eastman Company, Concord, N. H.

Between the convergence of yoke and base of the barrel there is a straight water way about six inches long. As this barrel leaves the end of the yoke, it tapers and continues in a smooth, straight waterway ten inches long. At the discharge end is a device to remove any remaining turbulence so that when the stream leaves the nozzle, the flow is straight.

The company will soon market a playpipe featuring the turbulence eliminator.

End of Turbulence Eliminator, Showing the Stream Perfector



Front and Back of the Hose Record Card

U. S. Fire Equipment Co. Expands

Announcement has been made to the effect that the U. S. Fire Equipment Company of Chicago has taken over the Special Clothing Company, makers of firemen's apparel. The business will be carried on as a department of the U. S. Company under the direction of F. Schnake, who for many years has been associated with the Special Company.

Henry H. Mead

The U. S. Company has just established new headquarters in New York City, in charge of Henry H. Mead. Substantial space has been leased in the 100 Sixth Avenue Building, and the premises are now undergoing the necessary alterations. Mr. Mead is well-known in the East through his association for many years with the fire hose business in that section of the country.

CONVENTION DATES

Feb. 17—FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Fire Headquarters, White Plains, N. Y. Secretary, Captain Walter M. Dawkins, Box 341, Port Chester, N. Y.

Feb. 24.—FAIRFIELD COUNTY FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Fairfield, Conn. Secretary, Lieut. John Moehring, Toms Road, Stamford, Conn.

March 17—FIRE CHIEFS' EMERGENCY PLAN. Regular Meeting, Montrose, N. Y. Secretary, Captain Walter M. Dawkins, Box 341, Port Chester, N. Y.

April 26-29—JOINT MEETING MISSOURI VALLEY FIRE CHIEFS ASSOCIATION, KANSAS FIRE CHIEFS' AND FIREMEN'S ASSOCIATIONS. Missouri Valley, 3rd; Kansas Chiefs', 21st, and Kansas Firemen, 50th Annual Conventions, Hutchinson, Kan. Secretary-Treasurer, Missouri Valley, Chief Ray Tiller, Waterloo, Ia.; Kansas Associations, Chief K. D. Doyle, Wamego, Kan.

May 10-14—NATIONAL FIRE PROTECTION ASSOCIATION. 41st Annual Meeting, Congress Hotel, Chicago, Ill. Managing Director, Franklin H. Wentworth, 60 Batterymarch Street, Boston, Mass.

June 15-16—NORTH DAKOTA STATE FIREMEN'S ASSOCIATION. 53rd Annual Convention, Walhalla, N. D. Secretary, Heinie Hamptman, Bismarck, N. D.

June 15-18—ILLINOIS ANNUAL FIRE COLLEGE. 13th Annual College, University of Illinois, Urbana. Director, Prof. L. H. Provine, of the University; Secretary, Asst. Chief Roy W. Alsip, Champaign, Ill.

June 22-24—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 15th Annual Convention, The Balsams, Dixville Notch, N. H. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass. Chairman, Exhibit Committee, Chief Albert C. Melendy, Nashua, N. H.

June 23-25—MARYLAND STATE FIREMEN'S ASSOCIATION. 45th Annual Convention, Easton, Md. Secretary, George R. Lindsay, Hagerstown, Md. Chairman, Exhibit Committee, J. M. Van Buren, Easton, Md.

July 6-9—PROVINCE OF QUEBEC POLICE AND FIRE CHIEFS ASSOCIATION. 5th Annual Convention, Rivière du Loup, Que. Secretary-Treasurer, Robert Harrington, Chief, Fire Department, McColl-Frontenac Oil Co., Ltd., Suite 8, Windsor Hotel, Montreal, Que.

July 13-14—MARITIME FIRE CHIEFS' ASSOCIATION. 23rd Annual Convention, Charlottetown, Prince Edward Island. Secretary-Treasurer, George P. Ryder, St. Stephen, N. B.

Aug. 3-5—WISCONSIN PAID FIREMEN'S ASSOCIATION. 30th Annual Convention, Wisconsin Rapids, Wis. Secretary-Treasurer, William H. Schultz, Sheboygan, Wis.

Aug. 5-7—MONTANA STATE FIREMEN'S ASSOCIATION. 46th Annual Convention, Anaconda, Mont. Secretary, Robert I. Thorburn, Billings, Mont.

Aug. 24-26—DOMINION ASSOCIATION OF FIRE CHIEFS. 29th Annual Convention, Oshawa, Ont., Can. Secretary-Treasurer, Chief James Armstrong, Box 56, Kingston, Ont.

Sept. 7-9—MARYLAND FIRE COLLEGE. 8th Annual Fire College, University of Maryland, College Park, Md. Director, Prof. S. S. Steinberg, Dean, Engineering College; Assistant Director, T. W. Venemann, Maryland State Firemen's Association; Secretary, G. F. Pollock, President's Office, University of Maryland.

Sept. 14-15—IOWA FIREMEN'S ASSOCIATION. 60th Annual Convention, Atlantic, Ia. Secretary, Paul A. Soener, Independence, Ia.

Oct. 5-7—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 58th Annual Convention, Philadelphia, Pa. Secretary, Chief Charles E. Clark, Box 217, Wayne, Pa.

Oct. 12-14—ILLINOIS FIREMEN'S ASSOCIATION. 50th (Golden Anniversary) Convention, Danville, Ill. Secretary, Assistant Chief Roy W. Alsip, Champaign, Ill.

Oct. 19-22—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 65th Annual Conference, Headquarters, Biltmore Hotel, and Exhibits and Sessions, New Municipal Auditorium, Oklahoma City, Okla. Secretary-Treasurer, Ex-Chief James J. Mulcahey, 16 Franklin Ave., Yonkers, N. Y.; Chairman, Exhibits, Chief Ray Tiller, Waterloo, Ia.

Beer Commission Changes Tavern Rules

A solution nearer to the beer tavern problem, which has confronted the members of the Connecticut State Firemen's Association for some time past, was effected recently when officers of the association held a conference with the three members of the Connecticut Liquor Control Commission and discussed the subject of the Liquor Commission's ruling which forces all holders of tavern permits to bolt or bar the back doors at all times.

When the Liquor Act was passed in Connecticut, the Commission ruled that only one door or exit could be opened. Several complaints against this ruling were filed with the Commission by Fire Department officials, Chiefs and Marshals. It was pointed out that the barring of a rear door of a tavern created a dangerous fire hazard and would prevent firemen from making a quick entrance to a building if the doors were nailed and barred.

The immediate danger, it was shown to the Commission, would be in the event of a fire in the front of a crowded tavern with the only possible escape being through the front door. With this exit cut off by fire and smoke the patrons would be trapped in the building.

Lieut. Charles H. Brundage of New Haven, Chairman of the Legislative Committee of the firemen's association, and Eugene J. Mulligan of New Haven, President of the association, were the spokesmen for the firemen. Members of the Commission were in favor of Lieut. Brundage's suggestion that all rear doors of taverns be equipped with panic bolts, in the same manner as are theatres, with an added wired seal which would protect the interests of the state and at the same time prevent a fire hazard.

The firemen's committee which met with the Liquor Commission was composed of Capt. E. J. Mulligan, New Haven; Chief James Downey, Wallingford; Lieut. C. H. Brundage, New Haven; Roy Enquist, Branford; Thomas F. Magner, Bridgeport; George Maloney, Norwich; John E. Graham, Waterbury; D. W. Harford, South Norwalk and Michael T. Souney, New Britain.

THOMAS F. MAGNER.

Conference Held in Worcester

A record breaking attendance marked the Fire Fighting Conference held on January 8 in the Memorial Auditorium, Worcester, Mass., in connection with the nineteenth annual Union Agricultural Meeting.

George O. Mansfield, Chief Fire Inspector, State Fire Marshal's office, Boston, presided at the morning session. The speakers were Chief John W. O'Hearn, Watertown, on "Fire Prevention in the Schools"; Supt. Lorton C. Walden, of the Insurance Fire Patrol of Worcester, on "Dilapidated Buildings and How to Get Them Removed," and T. Alfred Fleming, National Board of Fire Underwriters, on "How Can We Reduce the Fire Waste?"

Stephen C. Garrity, State Fire Marshal of Massachusetts, acted as Chairman of the afternoon meeting. Theodore Gunn, of the New Hampshire Board of Fire Underwriters, gave an interesting demonstration of some common fire hazards. Raymond Sullivan, Assistant Attorney General, spoke on "Tenure of Office and Laws that Concern Fire Departments."

General discussion was led by Chief William C. Mahoney, Peabody; Chief John H. Wetherbee, Stow, and Chief Herbert C. Root, Springfield. The meeting was arranged by Secretary Howard Russell, Massachusetts Farm Bureau Federation, and is an annual event of great interest. On the same day, at a meeting held in the auditorium under auspices of the Massachusetts Conservation Department, Asst. Fire Warden John P. Crowe spoke on "The Forest Fire Problem in Massachusetts."

HARRY BELKNAP.

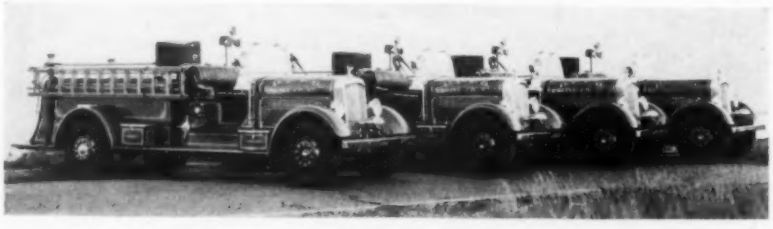
V. C. Stanley Honored

Among the appointments recently announced by Governor Curley, of Massachusetts, was the appointment of V. C. Stanley, President of The Gamewell Company, Newton, Mass., as Commissioner of the State Firemen's Relief.

V. C. Stanley

Mr. Stanley has spent thirty-four years of his life in the field of fire protection and has worked very closely with Fire Departments throughout the entire country.

By virtue of his experience, this appointment appears to be welcomed by Fire Department officials.



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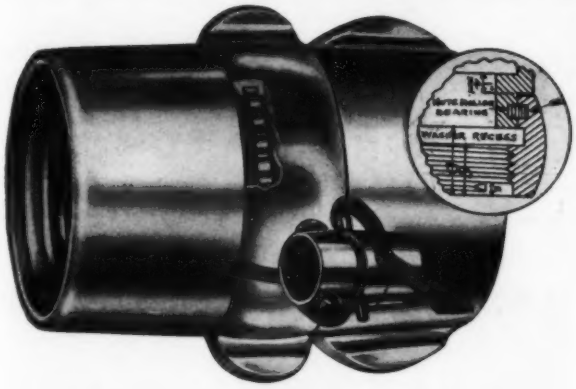

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AKROLITE couplings weigh only about half as much as ordinary bronze couplings, yet they can stand the same abuse. They are the result of years of experimental work. They polish up like chromium. They are in use in hundreds of fire departments in all parts of the country. Try them next time you buy. We furnish free with each four sets of Rocker Lug Couplings Akrolite or Bronze our style No. 10 Universal Spanner adapted to fit all sizes pin or Rocker Lug Couplings from ¾ inch to 6 inch size inclusive. It's the only spanner that will do this.

There is only one genuine ROCKER LUG COUPLING— Look for the name!

GUARANTEE: As a result of AKROLITE COUPLINGS being in actual service tests over eight years, which is beyond the life of most fire hose service, we can guarantee AKROLITE COUPLINGS to outlast the life of any fire hose. This same guarantee applies as well to our famous **BRONZE ROCKER LUG** Couplings in use throughout the world.

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"Territories Available"

FLAT CURED— WAX and GUM TREATED—
Any type you want!

Quaker City makes a complete line of fire hose in a wide price range—but every foot of it is made to give you the best service you can get in its price class. For a complete list of brands and prices write us anytime—

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VERY DURABLE!

No. 27B Coat.....$8.50
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No. 240 Coat.....$10.00
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Warm Lined
(Longer Coats Cost a Little More)

Send for Price List and Samples.

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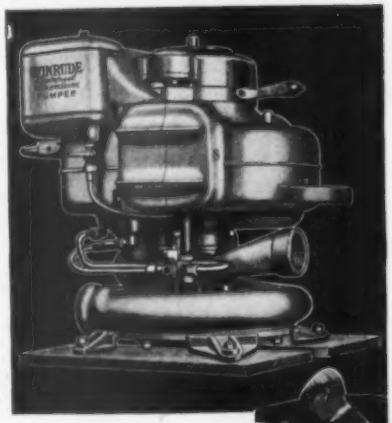
UP TO **154** Gals. per Min.

UP TO **150** Lbs. Pressure



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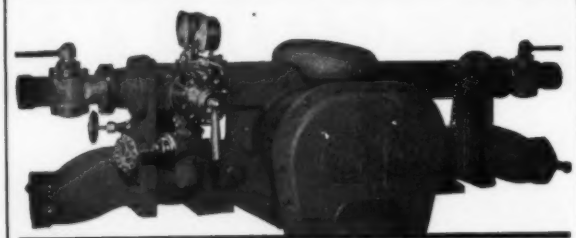

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"It is very instructive and helpful. We find this book very convenient to refer to in our school work."

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By FRED SHEPPERD

In Collaboration with the **EDUCATIONAL COMMITTEE** *of the* **INTERNATIONAL ASSOCIATION OF FIRE CHIEFS**

THERE have been books on fire-fighting, but never anything so complete and authoritative as the "Fire Chief's Handbook." This book, a gold-mine of practical, helpful data, gives a reliable, up-to-the-minute answer to almost every question that might come up in modern fire-fighting practice.

For progressive fire chiefs, interested in up-to-date fire fighting methods, the "Fire Chief's Handbook" will be a mighty valuable reference guide. It gives to ambitious fire department officers and men, in plain, understandable form, information that should prove extremely helpful in preparing for promotional examinations. In fact, it is a book every fighter needs and ought to have. ***The Edition is Limited—Better Order Your Copy Today.***

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Here are some of the subjects covered:

- FIRE DEPARTMENT TOOLS AND EQUIPMENT
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- FIRE EXTINGUISHERS AND THEIR USE
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- FIRE-FIGHTING METHODS
- FIRE STATION DESIGN
- TRAINING OF FIREMEN
- SALVAGE OPERATIONS
- BUILDING INSPECTION
- VENTILATION AT FIRES
- CARE OF FIRE HOSE
- CHEMISTRY OF FIRE
- HEAT AND ITS ACTION
- DRILL TOWERS
- DRILLS AND EVOLUTIONS
- FORCIBLE ENTRY
- EXPOSURES
- STANDPIPE WORK AT FIRES

—and Many Other Things

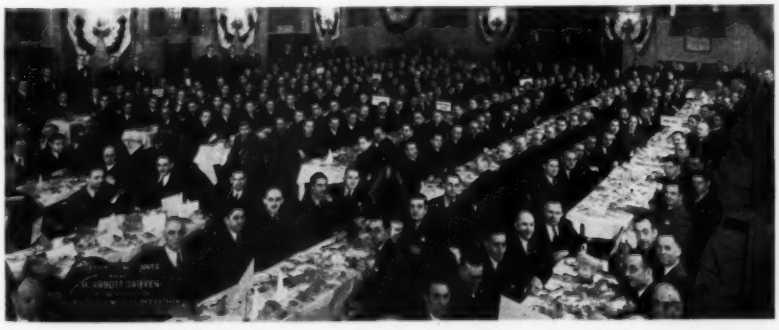
Dinner to Chief Griffen, White Plains, N. Y.

A testimonial dinner was given Chief H. Abbot Griffen, of the White Plains, N. Y., Fire Department, by the members of the department on his completion of twenty years as the head of the department. The event took place at the Elks Club House, White Plains, on the evening of Wednesday, January 20, with over 400 guests present, including city officials and heads of many of the surrounding Fire Departments. J. Harvey Turnure was Toastmaster, and the speakers included Mayor Walter Rogers, White Plains; Deputy Commissioner of Safety, White Plains; Deputy Chief Roi Wooley, Larchmont, representing the Fire Chiefs' Emergency Plan; Ex-Chief Clark Hope; Michael F. Loughman; Henry Sutherland; Captain George W. Barrie, White Plains Fire Department, and Chief Griffen. A telegram of congratulation was received from Commissioner of Safety Thomas F. Foley, White Plains, who is in Florida. A number of other congratulatory telegrams were also read by the Toastmaster.

Chief H. Abbot Griffen

Chief Griffen joined the Union Hook and Ladder Company No. 1, of White Plains, on March 3, 1903. In 1908 he was elected Second Lieutenant; in 1910 he was advanced to First Lieutenant, and two years later became Captain. He was first elected head of the department in 1914, and served several terms as volunteer Chief. On December 31, 1917, he was made full time Chief, which position he now holds.

Under the direct supervision of Chief Griffen is a uniformed force of 77 men, including a captain and six lieutenants, and 250 volunteers. The department now has three ladder trucks, six triple combination pumpers, one squad car, one Chief's car and one Captain's car. There are six fire stations and a fire alarm headquarters. There are also 182 fire alarm boxes, 150 miles of underground cable and 75 miles of overhead wire.



Testimonial Dinner Tendered to Chief H. Abbot Griffen on the Completion of Twenty Years as Chief of the White Plains, N. Y., Fire Department

Arson Discussed by Westchester Chiefs

Postponing its regular meeting date from January 20 to January 27, in order that its members might participate in the testimonial dinner to Chief Abbott Griffin, White Plains, honoring his twenty years of service as Chief, the Fire Chiefs' Emergency Plan met in Tarrytown with an attendance of over 130, taxing the capacity of fire headquarters.

Mayor Green, of Tarrytown, an old friend of the Plan, officially welcomed the organization to Tarrytown and complimented the members on their work. He was followed by a speaker, who discussed in detail the arrest and conviction of an arson gang that had long terrorized Westchester and other counties in Connecticut by setting fires estimated to have caused over half a million dollars worth of damage. As reporters were requested not to disclose the name of this speaker, or his remarks, the writer must remain silent on this score—but it was an interesting and lively discussion.

Following this speaker Chief Jacob Levy of the Fourth Battalion, New York Fire Department, was introduced and spoke unofficially and briefly on some of his experiences with incendiary fires on the lower East side of the big city.

After complimenting Chief Abbott on his 20-years service as Chief of the White Plains department, President Roi Woolley introduced Chief Riley of the Yonkers Fire Department, recently promoted to that office. He also paid a deserved compliment to Assistant Chief Edward Siller, of the same department, who is at present also Treasurer of the Plan.

Chief Richard LeVino, Chairman of the Program Committee, announced that several interesting speakers had been secured for forthcoming meetings of the Plan.

Deputy Chief Van de Water, of the Hastings-on-Hudson Fire Department, reported for the Ways and Means Committee, that an important meeting was held at which was discussed the importance of extending the work of the Plan to cope with major emergencies other than those created by conflagrations.

There was a discussion of the advisability of holding round-table talks and, upon the suggestion of Chief John Brennan, a "question box" will be installed, so that members may drop therein questions they desire answered.

A feature of the meeting was the induction of seventeen new members, many of them from Tarrytown and N. Tarrytown departments. Before the meeting adjourned, the members were advised of the testimonial dinner to be given retired Chief Arthur Chambers, of the Yonkers Fire Department, scheduled for February 4.

Upon the invitation of Chief Griffin, the Plan voted to hold its next meeting in White Plains, February 17.

Roi B. Woolley.

Box 52 Meets

A tour of inspection through the new building of the Western Union Telegraph and Cable Company, at the corner of High and Congress Streets, Boston, featured the January meeting of Box 52 Association.

Following a short business session in the Western Union auditorium, C. F. Hayes, of the National Park Service, showed a sound picture of the U. S. Forest Service entitled "Fire—the Public Enemy." He brought greetings from Maxwell C. Hutchins, State Fire Warden of Massachusetts, who was prevented from being present by illness.

John A. Molloy and T. B. Gittings, of the Western Union Company, gave interesting talks on the service by telegraph now available. Following this members and guests were shown through the building by W. I. McFatter, Chief Night Operator, who was assisted by A. S. Meyer and C. E. Hudson.

Harry Belknap.

Chief Charlesworth Re-elected

Chief Frank Charlesworth, Providence, R. I., was re-elected for the tenth time as President of the Fire Chiefs' Club of Rhode Island. In fact he has been the presiding officer since the club was organized. The election was held at the annual meeting held in Providence, January 14.

The other officers are Augustin J. Cote, Woonsocket, Vice-President; Thomas V. Daly, Pascoag, Second Vice-President; A. Robert Black, Fruit Hill, Secretary; Arthur J. Billinge, Norwood, Treasurer; Willard L. Taylor, Greenwood, Sergeant-at-arms; Rev. Norris T. Morton, Providence, Chaplain; Thomas H. Cotter, Providence, Delegate to the R. I. State Firemen's League for two years.

Chief Fred A. Johnson, Pawtucket, and Ex-Chief Daniel A. Masterson, East Greenwich, were elected honorary life members. The club membership is now 228. The installation banquet of the Chiefs will be held in February.

A. Robert Black.

Minneapolis Adopts New Vapor Nozzle

By George Lockhart
Battalion Chief and Drillmaster

For some years the Minneapolis Fire Department has experienced considerable success in extinguishing oil fires with water. The usual pit fire of crankcase drainings and gasoline, used for demonstrations, has been extinguished with the ordinary shut-off nozzle partly

Closet Fire Extinguished by Fog Nozzle

closed, using high pressure to produce the desired spray.

When vapor nozzles appeared on the market, Chief Earl Traeger was interested and witnessed several demonstrations of different makes. At one of these he remarked:

"A shut-off nozzle of the standard type with the addition of the vapor feature would be a valuable addition to regular equipment. Vapor alone is not sufficient—we never know what is needed until we get in and find out."

With this in mind, a Minneapolis manufacturer produced a nozzle which was tested at the Training School on the usual pit fires. A pit 25 feet in diameter was used. With ¼-inch tip, nozzle connected to 1½-inch hose, fires were extinguished with men advancing on fire both from the windward and leeward side. Vapor from the nozzle afforded good protection, heat was dissipated, and men were able to extinguish fires without taking undue punishment.

Two of these nozzles were placed in service in the Minneapolis Department early last fall, one at Engine Company No. 11, located at the Training School, and the other at Engine Company No. 6. At Station No. 11, Engine Company and Ladder Company have had several opportunities to use this nozzle on inside fires, where it has been very effective, especially on basement fires. One of these basement fires was located on the rear of an inside stairway, where shelves with paint cans of various descriptions were burning, flames were spurting and gas masks were required by men entering the building. A line was taken down inside stairway, where fire was extinguished, using the vapor nozzle only.

The best job done with this nozzle was accomplished by Engine Company No. 6 at the Woonsocket Apartments, 16th Street and 3rd Avenue South. This fire occurred around two o'clock in the morning. This is a four-story apartment house building. Fire started on the fourth floor, center of the building, in a one-room apartment. When the Department arrived, the fire had extended through the door and out into the hall. The line was stretched up front stairway. The vapor nozzle was opened in the hallway. The fire was extinguished with the one nozzle. We believe the principle involved in the construction of a nozzle which breaks the water into a vapor contributes to the minimum of water necessary. We have recently purchased twelve additional nozzles and will continue to add this equipment as rapidly as possible.

This nozzle was developed by the Perfection Manufacturing Company, and is being distributed by the W. S. Nott Company, of Minneapolis.

Chief Neary, Natick, Mass., Dead

Chief John H. Neary, Natick, Mass., died on January 18 at his home in his fifty-first year.

He was a veteran of the World War and had been a noted athlete. Although in failing health for the past year, he had continued on active duty until he was seized with the fatal attack on January 16.

He was born in Natick and attended the Natick High School, where he became a noted basketball player, later serving as basketball coach for the University of Maine.

On several occasions he took part in the famous Marathon Run of the Boston Athletic Association from Hopkinton to Boston. When the United States entered the World War he joined the 102nd Machine Gun Battalion, of the 26th Division, and served overseas, where he was wounded and gassed. He was cited for bravery and awarded the Purple Heart decoration for heroism in action.

Chief Neary served for sixteen years as head of the Natick Fire Department and was for nineteen years President of the Natick Firemen's Relief Association. He belonged to the New England Association of Fire Chiefs, and to the International Association of Fire Chiefs. He was a member of the Elks, Eagles, Knights of Columbus, American Legion, and Massachusetts State Firemen's Association. HARRY BELKNAP.

Yonkers Assistant Chief Has Record as Instructor

The new Second Assistant Chief of the Yonkers, N. Y., Fire Department, Edward H. Siller, who was appointed to the post at the same time as Chief John J. Reilly, on January 1, has an excellent record as an instructor of firemen, not only in his department but also in many of the cities and towns of Westchester County. He was born on December 22, 1881, in New York City. He received his schooling in Yonkers and also attended a private school in New York City. He was appointed a fireman in the Yonkers department on October 10, 1910, and served as chauffeur for Chief Mulcahey. He was promoted to a lieutenancy December 20, 1921. He became a captain December 24, 1923.

He attended the New York Fire School and College in 1927 and was graduated after a ten-week course. On his return to duty here the then Chief John J. Mulcahey placed him in charge of organizing and equipping the Rescue Company. He has also been in charge of the firemen's training school here.

Since 1929 he has supervised the Westchester Division of the New York State Training School for Firemen, and has held classes in practically every town and city in the county. In August, 1935, he was tendered a testimonial dinner by members of these classes and presented with an automobile in token of their appreciation of his services.

He also delivered lectures and was in charge of demonstrations for three years at sessions of the New York State Fireman's Training School sponsored by the State Conference of Mayors.

Chief Siller is a member of the International Association of Fire Chiefs, Eastern District Fire Chief Association, and at the last annual election became Treasurer of the Westchester County Fire Chiefs' Emergency Plan.

He is Honorary Chief of the Hastings, Irvington and Tarrytown Fire Departments, and an honorary member of Engine 3, Mount Vernon; Truck 1, Hastings; Union Corners Hose Company, Eastchester, and Cataract Engine Company, Ossining.

In April of this year he was awarded the Fire Department medal of honor

Assistant Chief Edward H. Siller

for a rescue performed in October, 1934, during the razing of the old carpet mill at Palisade Avenue and Elm Street. At that time he went into a hole to extricate a man who had been trapped there. He has also received four or five citations for meritorious service.

O'Donnell Heads Fire Club

The following officers were elected by the David Scannell Club, of the San Francisco Fire Department:

D. J. O'Donnell, President; Thomas F. Webb, First Vice-President; B. I. Maloney, Second Vice-President; William P. Lindecker, Secretary; John Bencich, Treasurer; Directors, Thomas Gilligan, John J. McCarthy, Edward G. Riley and Frank L. Smith.

An objective of the club is humane working conditions for firemen.

Lincoln Steffens says:

"Nothing is done finally and right; nothing is known positively and completely."

● Science is the search for universal laws and methods of activity, which being applied in the proper time, place and manner will give to Man mastery over Nature.

● The improvements in fire hose and couplings which we will soon offer to the trade are the result of exhaustive testing, endless experimenting, which we are sure will bring results which every fireman will approve.

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Face Pieces

★ B-K GAS MASK FACE PIECES fit any canister mask. Not only are they hand-made from U. S. Government specification rubber, insuring adequate wear and unusual comfort and fit, but they are equipped with speaking-exhalation valves which permit firemen to talk clearly and distinctly at all times.

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The Sterling Vertical Siren gives the Volunteer Fire Department a siren combining every important feature a fire signal should have, namely:

1. POWERFUL and DISTINCTIVE TONE.

2. 100% weatherproof protection. 3. Ball bearing motor capable of carrying 100% overload. 4. Rigid, durable and unit construction. 5. Perfectly dynamically balanced rotor of aluminum. 6. Fast pick-up—long roll. 7. Outside casing rustproof Armco Iron, 4 coats Red Duco.

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Repeat orders prove its value!

5 minutes and a package of SOOT-BLAST, sprinkled over flames at base of chimney, will put out any chimney fire.

Try a case and see!

$4.50
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12-26 oz. packages
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THE modern pumping engine has many advantages, including better and more powerful motors—better transmissions—better axles—four-wheel brakes—better engineering and, finally, better pumps—far better if it carries a Hale pump.

FIRE PUMPS HALE CONSHOHOCKEN

HALE FIRE PUMP CO., Inc.
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FALSE ALARMS

NOT GUILTY

The salesman was determined to see the Captain. However, as both companies of the station located in the industrial part of the city were out fighting a fire, he decided he would have a bite to eat in the meantime.

Experienced in ordering food in the type of lunch room that he entered, he placed an order for eggs. They were brought to him, and after they were opened, he asked the waitress:

"These eggs are a bit stale, aren't they, Miss?"

"Don't ask me," she replied curtly, "I only laid the table."

A golf club is a place where members try to break 80 on the course and 90 on the way home.

WELL PROTECTED

A field inspector employed by an insurance company called at a small hotel, owned by a little gentleman of Scotch ancestry. After he had gone upstairs, he came down and said to the owner:

"There does not seem to be any escape from this floor in case of fire, or an emergency."

The Scot eyed the visitor and coldly answered:

"There's no goin' tae be onny fire, nor onny emergency, for ye will pay me in advance."

He thought she was a grand girl, but he soon discovered that she wasn't upright.

NO LOSS

Matters had not been going well with the Captain. He had had a busy two days with, so it seemed, run after run. One of the fires was a most serious one with the total destruction of an apartment house. Confusion resulted. Relative tried to locate relative.

A woman came into the station with a photograph in her hand.

"My husband has disappeared," she sobbed to the Captain. "Here is his picture. Will you please find him?"

He looked at the picture rather critically and then asked, "Why?"

Then there was the girl who named her baby, "Encore," because she wasn't on the program.

SHORT HANDED

Remembering the saying that "All work and no play makes Jack a dull boy," those who had arranged for the fire school, also allowed time for the group to see a basketball game as guests of the athletic association. The boys appreciated this relief from days of lectures and demonstrations.

One couple at the game was unusually funny. One was a very good talker, more so because he had a bottle of liquor. His friend was Scotch, at least so it seemed, because of the burr in his talk.

The bottle-man took frequent sips from the bottle and explained to his friend just how the game should have been played.

Finally the Scot could stand it no longer. He remarked rather bitterly:

"Weel, I notice ye're a fine dribbler, but ye're nae guid at passing."

It's a wise chicken who knows when she had had enough corn.

GENERAL QUESTION

This story, a certain apparatus salesman vouches, is the gospel truth:

He was in a small city that had a hotel that was just an excuse for one. It had all the inconveniences that one could imagine.

After part of a troublesome night, he phoned to the hotel desk down stairs.

"Is this the night clerk?" he asked.

The clerk evidently had been aroused from a nap and was not in the best humor.

"Well, what's biting you?"

The salesman rather dryly answered, "That's what I'd like to know."

Girls are like snowballs. The harder you squeeze them, the faster they melt.

BLESSED ARE THE RICH

Sam was a colored character of the neighborhood. Slow, ambling, and often provoking, he still was highly thought of by those who had known him for some time. He did odd jobs and often went on errands for the firemen.

One morning as he ambled into the fire station to see if there was something for him to do, the desk man saw him.

"Hello, Sam. I see you got cut up again."

Wearing his usual poker face, he answered:

"Yes, sah. Ah done got carved up wid a razor."

"Why don't you keep out of bad company?" the fireman suggested.

"Deed, ah'd like to, but ah ain't got 'nuf money to get a deevorce."

The last drought in the west was so bad the trees went to the dogs.

COURSE OF EVENTS

Road signs are frequently prophetic. For example:

Soft shoulders
Dangerous Curves
Men at Work
Danger
Look out for Children

EVER READY

"Let me live in a house by the side of the road where the race of man goes by."

But if you would live in a house by the side of the road and be a friend of man, get some gauze and splints and iodine and a well-filled ether can.

WANTED PROTECTION

Firemen who are on detail in theatres, hear and see many funny things. Tom Gerrity, for instance, reported the following conversation in the darkness of the balcony.

"May I kiss you?"

Complete silence.

"You wouldn't get angry if I kissed you, would you?"

"My goodness! Do you want me to promise not to bite?"

The difference between a snake and a flea is that a snake crawls on its own stomach, but a flea is not particular.

Drawing by "Art" Espey

Looks Like the Battle of "Bellow" Woods

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(3) Bomb-Tested Rubber Lining—Long-lived . . . creates no destructive solutions.

(4) Mildew-Proofing—All fabrics antiseptically treated to prevent mildew and rot.

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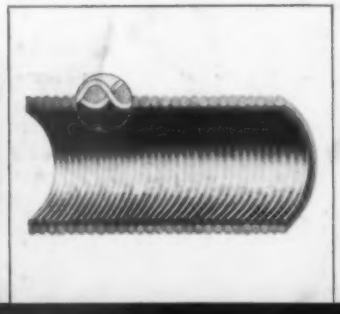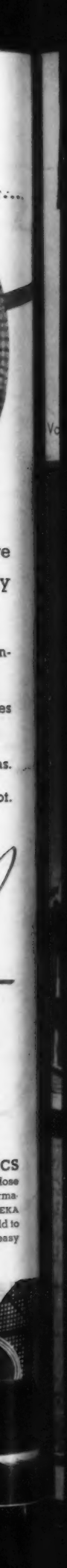
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